# PURCHASING OPERATION SYSTEM, PURCHASING OPERATION PROCESSING METHOD AND PURCHASING OPERATION PROCESSING PROGRAM

## BACKGROUND OF THE INVENTION

### 1. Field of the Invention

The present invention relates to a purchasing operation system, a purchasing operation processing method and a purchasing operation processing program. Specifically, the present invention relates to a technique used in an environment (ASP or the like) capable of being commonly used by a plurality of corporations or organizations having different approval standards, the technique allowing each corporation or organization to utilize common program resources and to set and utilize its own unique approval route.

### 2. Related Art

As to a purchasing operation system of a corporation, for example, a plurality of purchasing corporations or organizations generally use the same system to reduce operational costs and to practice cooperative purchasing. The purchasing operation system performing such operations employs a scheme (ASP or the like) that enables a plurality of purchasing corporations or organizations to use a single system by logically dividing resources of the single system. In such a scheme, the program resources are common to the plurality of corporations or organizations. The approval function of such a purchasing operation system is usually a limited one based on the approval rules of only two or three phases corresponding to purchasing amounts or the like, the approval rules being previously determined in the purchasing operation system. In a case where a certain purchasing corporation or organization uses an approval rule specific to the corporation or organization, rather than using the approval rules previously determined in the system, the corporation or organization uses the purchasing operation system in a manner that only data on purchasing order is linked to the system, for example. More specifically, in this manner, before

entering the data on purchasing order, the corporation or organization enters data on products to be purchased into a system individually operated by itself, and operates the individually-operated system to confirm the approval for the purchase. For examples of such method, refer to non-patent documents disclosed at http://www.withkaunet.com/top/info13.html, http://www.withkaunet.com/top/info03.html, and https://www.webmethods.co.jp/pdf/Biz.pdf.

As described above, in the conventional purchasing operation processing environment commonly usable by a plurality of corporations or organizations having different approval standards (environment in which the resources in the system are logically divided, such as ASP), each corporation or organization uses common program resources. In a case where each corporation or organization is to implement its own unique approval standard in a purchasing operation system under such an environment, general-purpose functions and services included in the purchasing operation system are not practical anymore, thereby imposing a cost for individual development on the corporation or organization every time the purchasing operation system is adjusted to the unique approval standard. As a result, the burden of the costs or the like on each corporation or organization increases. In the meantime, even in a case where the link methods described in the above non-patent documents are employed for avoiding such a problem, each corporation or organization has to bear development costs and operational costs for the system.

## SUMMARY OF THE INVENTION

The present invention is made in view of the aforementioned problems. An object of the present invention is to enable each user to define and use its own unique approval rule under the assumption that each user uses common program resources.

A purchasing operation system of the present invention provides a system that is commonly used by users such as

corporations and organizations and that performs intermediary processing for transactions of a product, a service or the like among the users. The provided system comprises: an approval route setting receiving unit for receiving approval route data for each of the users from an input interface or a user terminal used by the user, and storing the thus-received approval route data in a storage unit, the approval route data being data on an approval route for an internal approval required by each of the users for a transaction of a product or a service, and the approval route data including an attribute of a transaction that is an approval target and an attribute of an approver required for an approval in association with each other; an approval route control unit for receiving transaction request data of a product or a service from a user terminal, then for selecting approval route data having a transaction attribute that matches that of the transaction request data from approval route data, in the storage unit, each of the approval route data being associated with the user terminal of the user having issued the transaction request data, and for executing internal approval processing for the user on the basis of the approval route data selected here; and a transaction intermediary execution unit for transmitting data of an order placed or received in the transaction, which is the approval target, to a terminal of a transaction counterpart of the user in a case where an approval is obtained from a required approver as a result of the internal approval processing.

According to the purchasing operation system of the present invention, each corporation or organization is enabled to implement its own unique approval standard on the purchasing operation system under the assumption that each user of the purchasing operation system uses common program resources. Since the assumption that each user of the purchasing operation system uses the common program resources is retained, the problems caused in the prior art are resolved. The problems include reduction in the general versatility of functions and services included in a purchasing operation system and an occurrence of

a cost burden for individual development every time response measures are taken for each approval standard. Accordingly, each user is enabled to define and utilize its own unique approval rule under the assumption that each user of a purchasing operation system uses the common program resources.

Moreover, in the aforementioned purchasing operation system, the approval route setting receiving unit may be configure to transmit, to the user terminal of the user or the input interface, input receiving screen data for inputting the approval route data, and receives the approval route data inputted in the input receiving screen from the user terminal or the input interface. In addition, the input receiving screen data may be configured to include: an interface for receiving a setting of an approval authority level of each approver included in the approval route; and an interface for receiving a setting of a required approval authority level of an approver in each approval phase included in the approval route.

According to the aforementioned configuration, as approval route data, an approver having an appropriate authority level in each approval phase can be set. The effect of the invention of the present application, which enables each user to set its own unique approval route, enhances in terms of improvement in flexibility for each user to set its own unique approval route.

In addition, in the purchasing operation system, data on an approver candidate for each of the users and on an approval authority level of the approver candidate may be stored in the storage unit, and upon receipt of the setting of the required approval authority level in each approval phase from the user terminal or the input interface via the input receiving screen, the approval route setting receiving unit may specify, in the storage unit, an approver candidate having an approval authority level equal to or greater than the required approval authority level indicated in the setting received here, then generate an approver candidate list, then transmits data of the approver candidate list to the user terminal or the input interface and

receive an instruction indicating a selected approver from the approver candidate list.

According to this configuration, for the user setting an approver, the efficiency in the processing for determining an approver improves and in the meantime, a concern that an approver not having a required approval level is wrongly set in the approval route data is eliminated.

In addition, in the purchasing operation system, the approval route setting receiving unit may be configured to transmit, to the user terminal or the input interface, the input receiving screen data for inputting the approval route data and to receive the approval route data inputted in the input receiving screen from the user terminal or the input interface. Moreover, the input receiving screen data may be configured to include: an interface for receiving an attribute setting of an ordered product and sold product in a transaction, which is an approval processing target of the approval route; an interface for receiving payment source information that is information for an accounting procedure or the like; an interface for receiving a setting of a transaction amount range of the transaction, which is the approval processing target of the approval route; and an interface for receiving an attribute setting related to the user issuing the transaction request for the product or service by use of the user terminal.

According to this configuration, as approval route data, detailed transaction contents can be set as the transaction attributes that are to become standards for automatically selecting an approval route. This increases the effect of improvement in flexibility for each user to set its own approval route.

Moreover, in the aforementioned purchasing operation system, the approval route control unit may be configured to receive the transaction request data of the product or service from the user terminal and to read, from the thus-received transaction request data, attribute data of the ordered product

and sold product in the transaction, transaction amount data of the transaction, the payment source information and the attribute data related to the user issuing the transaction request instruction. In addition, the approval route control unit may be configured to select approval route data having an attribute of the ordered product and sold product, a transaction amount range, payment source information and an attribute of the user that are set in the approval route data and that match the data read from the transaction request data from the approval route data in the storage unit, each of the approval route data being associated with the user of the user terminal having issued the transaction request data, and then to execute internal approval processing for the user on the basis of the approval route data selected here.

According to this configuration, as approval route data, detailed transaction contents can be set as the transaction attributes that are to become standards for automatically selecting an approval route. This increases the effect of improvement in flexibility for each user to set its own unique approval route, or of allowing the selection of an appropriate approval route in accordance with the detailed contents of the transaction.

Furthermore, in the aforementioned purchasing operation system, approval route data common to the users may be stored in the storage unit, and when selecting the approval route data having a transaction attribute that matches that of the transaction request data, the approval route control unit may select the approval route data common to the users in a case where the approval route data having the transaction attribute that matches that of the transaction request data does not exist in the approval route data in the storage unit, each of the approval route data being associated with the user of the user terminal having issued the transaction request data.

According to this configuration, each user can set its own unique approval route. In the meantime, physical capacities of

approval route data to be registered in the storage unit and of various master data for approval route data setting can be controlled, and also the maintenance and management of data in the storage unit can be simplified. Thereby, the operational costs of a system can be reduced.

In addition, the approval route data common to the users may be set for each one or plurality of transaction attributes in the aforementioned purchasing operation system. In the aforementioned purchasing operation system, when selecting the approval route data having a transaction attribute that matches that of the transaction request data, the approval route control unit may select, among the approval route data common to the users, certain approval route data common to the users including predetermined attribute data of the transaction included in the transaction request data, in a case where the approval route data having the transaction attribute that matches that of the transaction request data does not exist in the approval route data in the storage unit, each of the approval route data associated with the user of the user terminal having issued the transaction request data.

According to this configuration, physical capacities of approval route data to be registered in the storage unit and of various master data for approval route data setting can be controlled, and also the maintenance and management of data in the storage unit can be simplified. In the meantime, an approval route in accordance with a transaction attribute can be automatically selected. Thereby, the simplification of data maintenance and management as well as appropriate selection of an approval route can be achieved.

Moreover, in the purchasing operation system, an address, on a network, of an approver terminal used by an approver set in approval route data may be stored, and when executing the internal approval processing on the basis of the selected approval route data, the approval route control unit may transmit approval request data together with the transaction request data to the

address of the approver terminal included in the approval route data, then, acquire input data indicating an approval or disapproval of the approver from the approver terminal, then determine if approvals of all approvers defined in the approval route data are obtained, and notify a transaction execution unit of the result of the determination if it is determined that the approvals from all of the approvers defined in the approval route data are obtained.

According to this configuration, the purchasing operation system automatically selects an approval route in accordance with a transaction attribute and also automatically executes acquisition of approval data of an approver in accordance with the automatically selected approval route and the processing to be performed after the acquisition of the approval data. Accordingly, the user is no longer required to separately perform internal approval processing in accordance with the approval route.

Moreover, a purchasing operation processing method according to the present invention is executed by a computer that is commonly used by users such as corporations and organizations and that performs intermediary processing for transactions of a product, a service or the like among the users. The provided method comprises the steps of: receiving approval route data for each of the users from an input interface or a user terminal used by the user, and storing the thus-received approval route data in a storage unit, the approval route data being data on an approval route for an internal approval required by each of the users for a transaction of a product or a service, and the approval route data including an attribute of a transaction that is an approval target and an attribute of an approver required for an approval in association with each other; receiving transaction request data of a product or a service from a user terminal, then selecting approval route data having a transaction attribute that matches that of the transaction request data from approval route data in the storage unit, each of the approval route data being associated

with the user terminal of the user having issued the transaction request data, and executing internal approval processing for the user on the basis of the approval route data selected here; and transmitting data of an order placed or received in the transaction, which is the approval target, to a terminal of a transaction counterpart of the user in a case where an approval is obtained from a required approver as a result of the internal approval processing.

According to the purchasing operation processing method, each user is enabled to implement its own unique approval standard on the purchasing operation system under the assumption that each user of a purchasing operation system uses common program resources. Since the assumption that each user of the purchasing operation system uses the common program resources is retained, the problems caused in the prior art are resolved. The problems include reduction in the general versatility of functions and services included in a purchasing operation system and an occurrence of a cost burden for individual development every time response measures are taken for each approval standard. Accordingly, each user is enabled to define and utilize its own unique approval rule under the assumption that each user of a purchasing operation system uses the common program resources.

A purchasing operation processing program according to the present invention causes a computer that is cooperatively used by users such as corporations and organizations and that performs intermediary processing for transactions of a product, a service or the like among the users to execute the steps of: receiving approval route data for each of the users from an input interface or a user terminal used by the user, and storing the thus-received approval route data in a storage unit, the approval route data being data on an approval route for an internal approval required by each of the users for a transaction of a product or a service, and the approval route data including an attribute of a transaction that is an approval target and an attribute of an approver required for an approval in association with each other;

receiving transaction request data of a product or a service from a user terminal, then selecting approval route data having a transaction attribute that matches that of the transaction request data from approval route data in the storage unit, each of the approval route data being associated with the user terminal of the user having issued the transaction request data, and executing internal approval processing for the user on the basis of the approval route data selected here; and transmitting data of an order placed or received in the transaction, which is the approval target, to a terminal of a transaction counterpart of the user in a case where an approval is obtained from a required approver as a result of the internal approval processing.

According to the purchasing operation system of the present invention, each corporation or organization is enabled to implement its own unique approval standard on the purchasing operation system under the assumption that each user of a purchasing operation system uses common program resources. Since the assumption that each user of the purchasing operation system uses the common program resources is retained, the problems caused in the prior art are resolved. The problems include reduction in the general versatility of functions and services included in a purchasing operation system and an occurrence of a cost burden for individual development every time response measures are taken for each approval standard. Accordingly, each user can define and utilize its own unique approval rule under the assumption that each user of a purchasing operation system uses the common program resources.

In addition, the problem disclosed in this application and the solving method thereof will be made clear in the section of "DETAILED DESCRIPTION OF INVENTION" and through the accompanying drawings.

According to the present invention, each user is enabled to define and utilize its own unique approval rule under the assumption that each user of a purchasing operation system utilizes common program resources.

## BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is an entire configuration diagram of a purchasing operation system according to the present embodiment;

Fig. 2A to 2C are diagrams respectively showing data structure examples of a user attribute master, an approval route application condition master and an approval route control master according to the present embodiment;

Fig. 3 is a flowchart showing a processing procedure 1 of a purchasing operation processing method of the present embodiment;

Fig. 4 is a flowchart showing a processing procedure 2 of the purchasing operation processing method of the present embodiment;

Fig. 5 is a diagram showing an example of an order request creation screen of the present embodiment;

Fig. 6 is a diagram showing an example of an approver setting screen of the present embodiment;

Fig. 7 is an example of an approver list screen;

Fig. 8 is a diagram showing an automatic selection control example 1 of an approval route according to the present embodiment; and

Fig. 9 is a diagram showing an automatic selection control example 2 of an approval route according to the present embodiment.

## DETAILED DESCRIPTION OF THE INVENTION

System Configuration

Hereinafter, a detailed description will be given of an embodiment of the present invention by use of the accompanying drawings. Fig. 1 is a configuration diagram of a purchasing operation system 100 according to the present embodiment. The purchasing operation system 100 according to the present embodiment (hereinafter, referred to as a system 100) is a computer system that is commonly used among users such as

corporations and organizations and that performs intermediary processing for products, services or the like among the users. This system 100 can be said to be a computer that provides an environment in which a plurality of purchasing corporations 2 or organizations having different approval standards can perform cooperative purchasing operations (environment in which resources in the system are logically divided, such as ASP). In addition, the plurality of corporations 2 and their transaction counterpart corporations 3 can simultaneously use the computer via a network 140 such as the Internet.

Accordingly, the system 100 can be assumed as a server apparatus that is coupled to a large number of user terminals 300 (preferably to approver terminals 400 as well) via the network 140, that provides a place on the network as an electronic market during processing for products or services transacted between the user terminals, and that performs product search, data processing of an order placed or received, transaction history management and approval processing. Among the user terminals 300, ones used by the purchasing corporations 2 each performing purchasing operations of products or services are referred to as purchasing corporation terminals 350, and ones used by the transaction counterpart corporations 3 each delivering products or services upon receipt of orders from the purchasing corporations 2 are referred to as transaction counterpart corporation terminals 360.

Moreover, the system 100 includes a login program 4, a request source program 5 and a transaction counterpart program 6 in a storage unit 101. The request source program 5 provides the following functions: a product search function 10 used by the purchasing corporations 2 to search for a product to place an order; an order request function 11 that receives orders from the purchasing corporations 2 and then processes the orders; an approval function 12 that performs approval processing in accordance with an individual approval route of each of the users; and an order placement history management function 13 that manages history data of the orders placed by the users. Moreover, the

transaction counterpart program 6 provides an order receiving function 14 that receives orders from the purchasing corporations 2 and then processes the orders, and a shipment register function 15 that registers data indicating that the transaction counterpart corporations 3 has performed shipment processing on applicable products or the like in accordance with the orders, and the like.

It should be noted that, as a user authority related to a purchasing operation, a "client" or "approver" is assumed. As to a purchasing process, a user belonging to each of the purchasing corporations 2 and having the authority of "client" (hereinafter, referred to as a "client user") logs into the system 100 by use of the login program 4 and then generates approval request data by use of the product search function 10 and the order request function 11 of the request source program 5. On the other hand, a user having the authority of "approver" (hereinafter, referred to as a "approver user") logs into the system 100 by use of the login program 4 and performs approval processing by use of the approval function 12 of the request source program 5.

At this time, the system 100 stores, in a storage unit 101, an address, on the network, of an approver terminal 400 used by an approver set in approval route data. Then, the approval function 12 (an approval route controller 111) transmits an approval request together with an order request (transaction request data) to the address of the approver terminal 400, the address being included in the approval route data. The approval request data is screen data provided with an interface for receiving an input of an approval or disapproval, for example. Then, the approval function 12 acquires the input data indicating the approval or disapproval of an approver from the approver terminal 400 and then determines whether approvals or disapprovals are obtained from all of the approvers defined in the approval route data. If the approval function 12 determines that approvals are obtained from all of the approvers defined in the approval route data, the approval function 12 notifies the

order request function 11 (transaction execution unit) of the result of the determination.

Since one or more approvers can be set for a single approval request matter, the approval request matter becomes an official order matter to a corresponding one of the transaction counterpart corporations 3 upon completion of obtaining approvals from all of the approvers set in the approval route data.

A user having an authority of a "transaction counterpart representative" in the transaction counterpart corporation 3 logs into the system 100 by use of the login program 4 and then performs order-receiving processing and shipment processing by use of the order receiving function 14 and the shipment register function 15 of the transaction counterpart program 6 with respect to the official order matter generated by a corresponding one of the purchasing corporations 2. Information, such as attribute information on or purchase history of each user, product information and other information that becomes necessary along with usage, is stored in a space logically divided for each of the purchasing corporations 2 or counterpart transaction corporations in a database 7 that is common to all of the users and that is included in the storage unit 101 in the system.

Furthermore, the system 100 according to the present embodiment includes a WEB server 8 and DB server 9. The WEB server 8 is provided with the login program 4, the request source program 5 and the transaction counterpart program 6 as a business application in a storage unit. In addition, the DB server 9 includes a user attribute master 125, product data that is a list of products and services to be handled by the system 100, order data of the products and services to be handled by the system 100, order placement history data and approval route data (an approval route application condition master 126 and an approval route control master 127) as the database 7 in the storage unit 101. The WEB server 8 extracts/writes each piece of information in the database 7 of the DB server 9 via the network 140 when each function in the business applications is executed.

The aforementioned system 100 reads out a program 102 stored in the storage unit 101 such as a non-volatile memory into a memory 103 in order to provide functions for executing a purchasing operation processing method. The system 100 then causes a CPU 104, which is an arithmetic unit, to execute the program. In addition, the system 100 includes an input interface 105 such as a keyboard and various types of buttons usually provided with a computer, an output interface 106 such as an LED or display and a communication unit 107 for communicating with the user terminals 300 and the approver terminals 400.

Next, a description will be given of function units configured and retained by the system 100 on the basis of the program 102, for example. As described above, each of the function units may be integrally provided on a single server apparatus or the like. However, it may be assumed that the function units are arranged in a dispersed manner on a plurality of computers on the network 140 and work in a cooperative manner under the initiative of a predetermined server apparatus.

The system 100 includes an approval route setting receiving unit 110. The approval route setting receiving unit 110 receives, for each user, approval route data including attributes of the transaction that is an approval target and attributes of an approver in association with each other, from the user terminals 300 used by the users or the input interface 105. Here, the approval route data is data of an approval route for the internal approval required for each user in a product or service transaction. The approval route setting receiving unit 110 stores such received approval route data in the storage unit 101. It is possible to assume that this approval route setting receiving unit 110 is provided by the aforementioned request source program 5.

In addition, the system 100 includes an approval route control unit 111. The approval route control unit 111 receives transaction request data of products and services from the user terminals 300. The approval route control unit 111 then selects

approval route data whose transaction attributes match those of the transaction request data, from the approval route data associated with the user of the corresponding one of the user terminals 300, which has issued the transaction request data. The approval route control unit 111 then executes internal approval processing for the user on the basis of the approval route data selected here. It is possible to assume that the approval route control unit 111 is provided by the request source program 5.

Furthermore, the system 100 includes a transaction intermediary execution unit 112 that transmits the data of an order placed or received of the approval target transaction, to the terminal of the transaction counterpart of the user in a case where an approval is obtained from the required approvers as a result of the internal approval processing. It is possible to assume that this transaction intermediary execution unit 112 is provided by the request source program 5 and the transaction counterpart program 6.

It should be noted that the approval route setting receiving unit 110 may be configured to transmit input receiving screen data of the approval route data to the user terminal 300 or the input interface 105, and also to receive, from the user terminal 300 or the input interface 105, the approval route data inputted in the input receiving screen. The input receiving screen data may be configured to include an interface for receiving the setting of an approval authority level of each approver included in an approval route, and an interface for receiving the setting of a required approval authority level of an approver in each approval phase included in the approval route.

In addition, the system 100 may be configured to store, in the storage unit 101, approver candidate information on each user and data of the approval authority levels of the candidates. Moreover, the approval route setting receiving unit 110 may be configured in the following manner. Upon receipt of the setting of the required approval authority level in each approval phase from the user terminal 300 or the input interface 105 via the input

receiving screen, the approval route setting receiving unit 110 specifies an approver candidate having an approval authority level equal to or greater than the required approval authority level in the received setting and then generates an approval candidate list. Thereafter, the approval route setting receiving unit 110 transmits the data of the approver candidate list to the user terminal 300 or the input interface 105 and receives an instruction indicating a selected approver in the approver candidate list.

In addition, the approval route setting receiving unit 110 may be configured to transmit the input receiving screen data of approval route data to the user terminal 300 or the input interface 105, and to receive the approval route data inputted in the input receiving screen from the user terminal 300 or the input interface 105. The input receiving screen data may include: an interface for receiving the attribute setting of an ordered product or a sold product in a transaction that is the approval processing target of the approval route; an interface for receiving payment source information that is the information used for the accounting procedure or the like; an interface for receiving the setting of a transaction amount range of the transaction that is the approval processing target of the approval route; and an interface for receiving attribute information related to the user issuing a transaction request instruction of a product or a service by the user terminal.

Moreover, the approval route control unit 111 may be configured to receive transaction request data of a product or a service from the user terminals 300 and to read out, from the transaction request data, attribute data of an ordered product or a sold product in a transaction, transaction amount data of the transaction and attribute data related to the user having issued the transaction request instruction. Then, the approval route control unit 111 may be configured to select approval route data having the attributes of the ordered product or the sold product, the transaction amount range and the user attributes that

are set in the approval route data that match the data read out from the transaction request data, from approval route data each associated with the user of the user terminal 300 having issued the transaction request data, in the storage unit 101. Then, the approval route control unit 111 may execute internal approval processing for the user on the basis of the approval route data selected here.

Moreover, the system 100 may store approval route data common to all the users in the storage unit 101. Then, when selecting the approval route data having the transaction attributes that match those of the transaction request data, the approval route control unit 111 may select the common approval route data from the storage unit 101 in a case where approval route data having the transaction attributes that match those of the transaction request data does not exist in the approval route data in the storage unit 101 each of the approval route data being associated with the user of the user terminal 300 having issued the transaction request data.

Moreover, the approval route data common to all the users is set for each one or plurality of transaction attributes. When selecting the approval route data having the transaction attributes that match those of the transaction request data, the approval route control unit 111 may select, among the common approval route data in the storage unit 101, certain common approval route data in which predetermined attribute data of the transaction included in the transaction request data is set, in a case where the approval route data having the transaction attributes that matches those of the transaction request data does not exist in the approval route data in the storage unit 101, each of the approval route data being associated with the user of the user terminal 300 having issued the transaction request data.

In addition, the system 100 may store an address, on the network, of the approval terminal 400 to be used by an approver set in approval route data. The approver route control unit 111 may be configured in the following manner. When executing the

internal approval processing based on the selected approval route data, the approver route control unit 111 transmits approval request data together with the transaction client data to the address of the approval terminal 400, the address being included in the approval route data, and acquires, from the approver terminal 400, input data of approval or disapproval of the approver. Then, the approver route control unit 111 determines whether or not approvals from all of the approvers defined in the approval route data are obtained. If determining that the approvals from all of the approvers are obtained, the approver route control unit 111 notifies the transaction execution unit of the result of the determination.

It should be noted that each of the function units 110 to 112 in the system 100 may be implemented by hardware or a program stored in an appropriate storage unit such as a memory or HDD (Hard Disk Drive). In this case, when executing the program, the CPU of the system 100 reads out the program from the storage unit and executes the program.

Table Structure Example

Next, a description will be given of the structure of a table used by the purchasing operation system 100 according to the present embodiment. Fig. 2 shows diagrams respectively showing examples of data structures of A, the user attribute master 125, B, the approval route application condition master 126, and C, the approval route control master 127.

The user attribute master 125 is a set of records each storing attributes related to individual users each issuing a transaction request instruction of a product or service by use of a corresponding one of the user terminals 300. In each of the records, by use of a user ID as the key, for example, data such as a corporate code, a business office code and a division code of a corporation to which a corresponding one of the individual users belongs, a type of approval authority and an approval authority level are associated with each other. It should be noted that the term "individual user" herein refers to an

individual who actually operates the user terminal 300 such as an employee or a worker who belongs to a "user" (corporation or organization) in scope of claims of the present invention.

In addition, the approval route application condition master 126 is a set of records each including descriptions of selection conditions used by the system 100 to select approval route data in accordance with transaction attributes. In each of the records, an approval route definition ID, which is the ID of an approval route, is used as the key, and data allowed to implement this approval route, such as a corporate code, a business office code, a division code, a base price range (a transaction amount range) and a priority (a priority order for selecting an approval route under the situation where a plurality of approval route data are selectable), are associated with each other.

In addition, the approval route control master 127 is a set of records each storing definition contents of each approval route data for each user (a corporation or organization). In each of the records, by use of an approval route definition ID as the key, for example, data such as the number of set acceptance phases (the number of approval phases), an approver corporate code, an approver business office code and an approver division code, each of which is the attribute information on the approver, an approver code, the address of an approver terminal 400 used by the approver, a required approval authority level, which is the approval authority level of an approver capable of giving an approval for each number of the approval phases and a requirement flag indicating that a corresponding one of the approval phases is a requirement for the approval, are associated with each other.

It should be noted that application conditions and approval route data common to all the users may be set in the approval route application condition master 126 and the approval route control master 127. In this case, as shown in Fig. 9, for example, "@" is set in each data item such as a corporate code, a business office code, a division code, an approval authority type and an approval

authority level, as one of the application conditions stored in the approval route application condition master 126 ("WF5" in Fig. 9). This "@" is a mark indicating that the condition indicated with "@" is replaced with a corresponding one of the attributes of all of the users and then applied. Likewise, "@" is set in each data item such as an approver corporate code, an approver business office code and an approver division code, all of which are the attribute information of the approver, as one of the application route data stored in the approval route control master 127 ("WF5" in Fig. 9). The approval route data common to all the users may be set for each one or plurality of transaction attributes. For example, certain common approval route data corresponds to corporate codes K1 to K3, another common approval route data corresponds to transaction amounts from "100,000 YEN" to "500,000 YEN," or the like.

Processing Flow Example 1

Hereinafter, a description will be given of an actual procedure of a purchasing operation processing method according to the present embodiment on the basis of the drawings. It should be noted that each type of operation corresponding to the purchasing operation processing method to be described hereinafter is implemented by a program to be read into a memory and executed by the system 100. This program is configured of codes for performing various types of operation to be described below.

Fig. 3 is a diagram showing a processing procedure example 1 of the purchasing operation processing method according to the present embodiment. Here, a description will be given of a processing flow in a case where a client user belonging to a certain one of the corporate purchasing corporations 2 purchases a product. When a client user who attempts to log into the system 100 accesses the login program 4 of the WEB server 8 via the network 140, the login program 4 transmits screen data capable of receiving input of a user ID and a password (hereinafter, referred to as a login screen) to a purchasing corporation terminal 350 used by the

client user.

In response to this, the client user inputs a user ID and a password and clicks on a login button on the login screen displayed on the purchasing corporation terminal 350. The inputted information is then transmitted to the login program 4 of the WEB server 8 from the purchasing corporation terminal 350 via the network 140.

The login program 4 of the WEB server 8 refers to the user attribute master 125 of the DB server 9 via the network 140, then determines if the password transmitted from the purchasing corporation terminal 350 is correct, and at the same time, extracts each data of the corporate identification section, the corporate code, the business office code (hereinafter, referred to as client user attribute information), the approval level and the authority of the client user (S301).

Next, the login program 4 determines what kind of authority the client user, which is extracted in the step S301, has (step S302). If the authority is a "client," the login program 4 transmits data of a screen displaying buttons capable of executing the product search function 10 and the order request function 11, respectively (hereinafter, referred to as a client menu screen), to the purchasing corporation terminal 350 used by the client user (S303). On the other hand, if the authority of the client user is other than the authority of a "client," the login program 4 transmits data of a screen displaying a button capable of executing a function allowed for each of other authorities, to the corporate purchasing corporation terminal 350.

When the client user clicks on the product search button displayed on the client menu screen in the purchasing corporation terminal 350, an execution request is transmitted to the product search function 10 of the WEB server 8 from the purchasing corporation terminal 350 via the network 140 (S304).

Upon receipt of the execution request, the product search function 10 of the WEB server 8 transmits data of a screen capable of receiving an input of a condition for searching for a product

(hereinafter, referred to as a product search screen) to the purchasing corporation terminal 350 of the client user (S305).

When the client user inputs a search condition on the product search screen displayed on the purchasing corporation terminal 350 and clicks on a search button, the search condition is transmitted to the product search function 10 of the WEB server 8 from the purchasing corporation terminal 350 via the network 140 (S306).

The product search function 10 of the WEB server 8 extracts product data that matches the search condition from product data of the DB server 9 on the basis of the search condition transmitted from the purchasing corporate terminal 350. Then, the product search function 10 transmits data of a screen that displays the extraction result (hereinafter, referred to as a search result screen) to the purchasing corporate terminal 350 of the client user (S307).

When the client user selects, from the search result screen displayed on the purchasing corporation terminal 350, a product for which the client user issues an order request and then, clicks on an order request generation button, an execution request is transmitted to the order request function 11 of the WEB server 8 from the purchasing corporation terminal 350 via the network 140 (S308).

Upon receipt of the execution request from the purchasing corporation terminal 350, the order request function 11 of the WEB server 8 transmits data of an order request generation screen capable of receiving inputs related to delivery information, payment source information and approver information for the product selected by the user (hereinafter, referred to as an order request generation screen) to the purchasing corporation terminal 350 of the client user via the network 140 (S309). Hereinafter, such input information is referred to as order request information. When the client user clicks on an order request button after inputting the order request information and specifying an approver by a processing method to be described below (S310),

product information, the delivery destination information and the payment source information are transmitted to the order request function 11 of the WEB server 8 from the purchasing corporation terminal 350 via the network 140. Upon receipt of the order request information from the purchasing corporation terminal 350, the order request function 11 writes the information as an order request matter into order data and order history data of the DB server 9 (S311).

It should be noted that prior to the step S311, internal approval processing is executed on the basis of approval route data automatically selected by the order request function 11, the approval route data including an approver specified by the client user. This processing is performed in a manner that the order request function 11 transmits order request data together with the order request information (transaction request data) to the address of the approver terminal 400 of an approver included in the automatically selected approval route data. Then, the input data indicating an approval or disapproval of the approver is received from the approver terminal 400. Thereafter, whether or not approvals from all of the approvers defined in the approval route data are obtained is determined. If it is determined that approvals from all of the approvers defined in the approval route data are obtained, the step S311 is executed.

Processing Flow Example 2

Next, a description of detailed processing for selecting an approval route automatically and setting an approver in steps S308 to S311 of the processing flow example 1 will be given. Fig. 4 is a diagram showing a processing procedure example 2 of the purchasing operation processing method according to the present embodiment. It should be noted that the order request function 11 of the request source program 5 is configured of an order request screen display module 5a, an approver setting screen display module 5b, an approver list screen display module 5c and an order request generation module 5d.

After the client user clicks on the order request generation

button in the step S308 of the processing procedure example 1, and then, the execution request is received by the WEB server 8 via the network 140 in the step S309 (S501), the order request screen display module 5a transmits an order request generation screen G601 shown in Fig. 5 to the purchasing corporation terminal 350 of the client user (S502).

The client user inputs payment source information G602 of each product to purchase in the order request generation screen G601, and then clicks on an approver setting button G603. Then, this execution request is transmitted to the approver setting screen display module 5b of the WEB server 8 from the purchasing corporation terminal 350 via the network 140 (S503).

After receiving the execution request, the approver setting screen display module 5b uses, as the application conditions, the client user attribute information acquired in the step S301, the product information selected by the client user in the step S308 and the payment source information G602 specified on the order request generation screen G601, and then extracts, from the approval route application condition master 126 of the DB server 9, via the network 140, an approval route definition ID that matches these application conditions. In a case where such an approval route definition ID that matches the application conditions does not exit, error processing is performed.

On the other hand, in a case where such an approval route definition ID that matches the application conditions exists, the approver setting screen display module 5b extracts all of the applicable approval route data from the approval route control master 127 by using the extracted approval route definition ID as the key (S504).

The approver setting screen display module 5b extracts a requirement flag of each set acceptance phase number in each of the approval route data extracted from the approval route control master 127, and the largest value of the set acceptance phase numbers. Then, the approver setting screen display module 5b transmits an approver setting screen G701 that displays the number

of approver setting fields equal to the largest value of the set acceptance phase numbers, information indicating "required" or "optional" in each field of the number of set approval phases, and approver search buttons G702 (refer to Fig. 6) to the purchasing corporation terminal 350 of the client user via the network 140 (S505).

When the client user clicks on the approver search button G702 for each field of the approval phases on the approver setting screen G701 displayed on the purchasing corporation terminal 350, this execution result and the data of an approval phase number G703 of a corresponding search button are transmitted to the approver list screen display module 5c of the WEB server 8 from the purchasing corporation terminal 350 via the network 140 (S506).

Upon receipt of the execution request from the purchasing corporation terminal 350, the approver list screen display module 5c refers to applicable data in the approval route control master 127 of the DB server 9 by using, as the keys, the approval route definition ID extracted in the step S504 and the data of the approval phase number G703 transmitted from the purchasing corporation terminal 350 of the client user. In addition, the approver list screen display module 5c extracts approver user information specifiable for the applicable approval phase number from the user attribute master 125 by using, as the keys, the approver corporate code, the approver business office code, the approver division code, the required approval level and the approver code, which are set in the data referred here (S507). At this time, an approver to be extracted needs to be a user having an approval level equal to or greater than the required approval level.

Next, the order request function 11 transmits the approver user information extracted by the approver list screen display module 5c to the purchasing corporation terminal 350 of the client user as an approver list screen G801 shown in Fig. 7 (S508). When the client user selects, from the approver list screen G801, an

approver to be set from the approver list transmitted from the order request function 11 and clicks on the selection button G802, the approver ("USER2" in the example of the drawing) is set in the applicable phase number of the approver setting screen ("1" in Fig. 6) as shown in Fig. 6 of the approver setting screen G704 (S509).

The processing from step S506 to step S509 is repeated until the client user sets approvers for all of the approval phase numbers each of which requires the specifying of an approver. When the client user clicks on an apply button G705 of the approver setting screen displayed on the purchasing corporation terminal 350 upon completion of the setting for all of the approvers, a series of the approvers set by the client user (in other words, they can be referred as the approval routes) is displayed.

After executing the required processing in the step S503 to step S509 for the purchasing product repeatedly, the client user clicks on the order request generation button of the order request generation screen. At this time, the purchasing corporation terminal 350 checks if there is a missed required setting of an approver and if the organization information on the approvers and approval routes are consistent as to the order request corresponding to each product. If such a missed setting is not found, the order request generation data is transmitted from the purchasing corporation terminal 350 to the order request generation module 5d via the network 140. The order request generation module 5d transmits the data received from the purchasing corporation terminal 350 to the DB server 9 as an order request matter and registers the matter as order request data and order history data (S510).

Approval Route Auto-Selection Control Example 1

Fig. 8 shows setting examples of the user attribute master 125, the approval route application condition master 126 and the approval route control master 127, and examples of auto-selection control of an approval route. In this example, three different approval route definition IDs are defined as WF1 (D911), WF2

(D912) and WF3 (D913). In addition, the data described for the approval route definition IDs, WF1 (D911) and WF2 (D912) are the data to be extracted when a client user that belongs to a corporate code "K1," a business office code "001" and a division code "A" issues an approval request. Moreover, in a case where the unit price of a purchasing product is not less than 10,000 YEN, the data of the approval definition ID, WF2 (D912) is applied. For other cases, the data of the approval definition ID, WF1 (D911) is applied.

Moreover, the description states that the data of the approval route definition ID, WF3 (D913) is applied in a case where the client user belongs to a corporation having a corporate code "K2." In the approval route control master 127, an application condition of an approver capable of giving an approval is set for each number of approval phases of each of the approval route definition IDs, WF1 to WF3 (D911 to D913). In these setting examples, the number of approval phases is set to one phase for the data of the approval route definition ID, WF1 (D921), and to two phases for WF2 (D922 to D923) and WF3 (D924 to D925), likewise.

As the approver for the first phase of WF1 (D911) of the approval route definition ID, an approver having a corporate code "K1," a business code "001," and an approval level not less than "1" is required. For the approval route definition ID, WF2 (D912), the same settings as those for the approval route definition ID, WF1 (D921) are applied for the first phase. In addition to this, an approver having an approval level 2 or greater and belonging to a division code B is required for the second phase in the approval route (D923) of the approval route control master 127. Furthermore, for the approval route definition ID, WF3 (D913), an approver having a corporate code "K2," a business office code "111," a division code "B" and an approval level equal to or greater than "1" is required for the first phase in the approval route (D924) of the approval route control master 127. Moreover, in the approval route (D925), an approver having the same corporate code and business code as those in the case of D924, and a division

code "C" and an approval level equal to "2" or greater can be optionally set.

For example, consider a case where USER1 (D901) issues an approval request for a product priced at 100 YEN (example 1). When the client user clicks on the approver setting button in the step S503, the order request function 11 uses a corporate code "K1," a business code "001," a division code "A," which are the affiliation information on the client user, and the purchasing price of the product "100 YEN" as the application conditions and thus extracts an applicable approval route definition ID from the approval route application condition master 126. At this time, as the applicable route definition ID, "WF1" (D911) is extracted among the application route IDs "WF1" (D911) and "WF2" (D912) both having a corporate code "K1" in their application conditions because the condition for the unit price of "WF1" is that the amount of a purchasing product is smaller than 10,000 YEN.

The order request function 11 uses the approval route definition ID "WF1" as the key and thus extracts the applicable data (D921) from the approval route control master 127. Since the number of set acceptance phases of the extracted approval route data D921 is only one (required), the order request function 11 transmits an approver setting screen displaying only one approval specification field to the purchasing corporation terminal 350 of the client user in the step S505.

Furthermore, when the client user clicks on the approver search button of the approval phase number "1" in the step S506, the order request function 11 extracts data of USER3 (D903) and USER4 (D904) both being an approver that has an approver corporate code "K1," an approver business code "001," an authority, "approver" and a required approver level equal to or greater than "1" all of which are set in the approval route data D921 extracted by using the approval route definition ID "WF1" and the number of set acceptance phases "1" in the step S507.

In the step S508, the order request function 11 transmits the extracted data of USER3 (D903) and USER4 (D904) as a list screen

to the purchasing corporation terminal 350 of the client user. In addition, the client user selects an approver from the list screen and set the approver in the step S509.

Likewise, in a case where USER1 (D901) purchases a product priced at 20,000 YEN (example 2), although both "WF1" (D911) and "WF2" (D912) match the conditions as the approval route definition ID extracted in the step S504, "WF2" (D912) having a higher priority is applied in this case. The order request function 11 uses the approval route definition ID "WF2" (D912) as the key and thus extracts applicable approval route data (D922) and (923) from the approval route control master 127. Since the numbers of set approval phases for the extracted data are "1" and "2," the order request function 11 transmits an approver specification screen displaying two approval phase specification fields to the purchasing corporation terminal 350 of the client user in the step S505.

The client user repeats the processing of the steps S506 to S509 for each of the first and second approval phases and thus specifies the approvers. At this time, USER3 (D903) or USER4 (D904) needs to be set in the first phase as in the case of the example 1, and an approver belonging to the corporate code "K," the business office code "001" and having an approval level equal to or greater than "2" needs to be set in the second phase in the processing of the step S507. Accordingly, only USER4 (D904) can be set as the approver.

It should be noted that the approval level necessary in an approval route can be also set for a client user. For example, in a case where a client user having an approval level 1: USER2 (D902) purchases a product priced at 20,000 YEN (example 3), an approval route definition ID to be extracted in the step S504 is "WF2" (D912) as in the case of (example 2). However, since the approval level of the client user: USER2 (D902) is 1, it is determined that the client user also has the approval authority of the first phase (D922) having the required approval level "1." For this reason, in the step S505, an approver specification

screen displaying no approver specification field of the first approval phase, but only the approval specification field of the second approval phase is transmitted to the client corporate terminal 350 of the client user. The client user specifies the approver by the same processing used for specifying the approver in the approver specification field of the second approver phase in the example 2.

In addition, in a case where a client user belonging to the corporate code "K2": "USER5" (D905) purchases a product (example 4), the approval route definition ID "WF3" (D913) is extracted by the order request function 11 (since the business office code and the division code are not set in the application conditions, the approval route definition ID "WF3" is extracted for all of the users belonging to the corporate code "K2"). Furthermore, the order request function 11 uses the approval route definition ID "WF3" as the key and thus extracts approval route data (D924) and (D925) from the approval route control master 127. Since the approval route data (D925) defined for the approver of the second phase is an optional setting, in the step S505, the order request function 11 transmits, to the purchasing corporation terminal 350 of the client user, the approver setting screen displaying "required setting" and "optional setting," respectively, in the approver specification fields of the first and second phases.

When the client user specifies an approver in the steps S506 to S509, the specifying of an approver in the first approval phase (the approver to be extracted in the processing of the step S507 is "USER6" (D906)) is required. However, the specifying of an approver in the second phase is optional, so that the approver is specified as appropriate. When an approver is to be set in the second phase, the approver is set by performing the processing of the steps S506 to S509 as in the case of the first phase (the approver to be extracted in the processing of the step S507 is "USER7" (D907)).

Approval Route Auto-Selection Control Example 2

Next, a description will be given, by use of Fig. 9, of a

method of defining an approval route and an auto-selection processing method of a case where a plurality of purchasing corporations 2 use a common approval route (approval rule). In a case where the plurality of purchasing corporations 2 use a common approval route, setting, for each of the purchasing corporations, of approval route data having the same contents in the approval route application condition master 126 and the approval route control master 127 increases trouble in improvement or elimination of the masters. Moreover, in order to avoid the execution of error processing, which occurs in a case where no approval route definition to be applied exists in the step S504, it is preferable to previously set a definition that can be widely used by the purchasing corporations 2 and that is applied in a case where individually set approval route data do not match application conditions.

In the aforementioned case, by setting "@" in each item of the approval route application condition master 126 and the approval route control master 127 as shown in Fig. 9, each of the application conditions of the approval routes is made readable and replaceable with a corresponding one of the attributes of the client users (already described in Fig. 2). For example, in Fig. 9, an approval route definition ID "WF4" (D1011) is an unique definition of the corporate code "K3," while "WF5" (D1012) is a definition of an approval route common to all of the purchasing corporations, which includes "@" set in the corporate code, the business office code and the division code.

In a case where a client user belonging to the corporate code "K3": "USER8" (D1001) purchases a product priced at the unit price of 100 YEN (example 5), an approval route definition ID to be extracted by the order request function 11 in the step S504 is "WF5" (D1012) in addition to "WF4" (D1011), which is individually defined for a corporation having the corporate code "K3." At this time, as to the approval route definition ID "WF5" (D1012), the order request function 11 replaces "@" set as the corporate code, the business office code and the division code

with the attribute information on "USER8" (D1001), which are "K3," "001" and "A," respectively.

In this example, the client user: "USER8" (D1001) is to purchase a product priced at the unit price of 100 YEN, and the approval definition ID "WF4" (D1011) is to be applied when the unit price is not less than 10,000 YEN. Accordingly, "WF5" (D1012) including no condition for the purchasing price set therein is extracted.

The order request function 11 uses the approval route definition ID "WF5" (D1012) as the key and thus extracts applicable approval route data (D1023) from the approval route control master 127. Furthermore, since the approval route data (D1023) includes the approver corporate code "@," the approver business office code "@" and the approver division code "@," the order request function 11 reads and replaces the "@" marks in these codes with the corporate code "K3," the business office code "001" and the division code "A" of the client user, respectively, when extracting a list of approvers for the number of approval phases "1" in the step S507. Moreover, the approver user "USER9" (D1002), which belongs to the same organization as the client user, is extracted from the user attribute master 125.

In addition, a "corporate identification code" of the user attribute master 125 is a definition for grouping a plurality of corporations (affiliated companies or the like). Accordingly, although the description and example of the following are omitted in the present example, the "corporate identification code" can be used as an application standard for application of an approval route, as in the case of the corporate code or the like by being set in the approval route condition master 126,.

According to this embodiment, even in an environment capable of being commonly used by a plurality of corporations or organizations having different approval standards (environment in which the resources in the system are logically divided, such as ASP), each corporation or organization is enabled to use its own unique approval rule (approval route). Moreover, in a case

where common approval standards are employed by a plurality of corporations or organizations, the maintenance and management of data can be simplified by controlling the setting amount of various data such as masters by using common approval rules. According to the aforementioned effects, the number of development and operation processes of an approval processing program or the like can be reduced, and at the same time, the versatility of the functions provided in the purchasing operation system can be retained. In addition, a purchasing operation system with appropriate costs can be implemented by eliminating the need for data link processing used in the conventional systems.

Accordingly, each user is enabled to define and utilize its own unique approval rule under the assumption that each user of a purchasing operation system uses common program resources.

It should be noted that although the network-coupled purchasing operation system for indirect materials or direct materials is exemplified above, the present invention can be also applied to all of the operation systems each having organization information on users of the system and using an approval work flow that changes depending on the contents. For example, the present invention can be applied to an operation system used for a managerial approval matter in the same organization or among a plurality of organizations, an internal report circulation operation or the like.

As described above, the embodiment of the present invention has been provided on the basis of the embodiment. The present invention is, however, not limited to this. Various modifications can be applied to the embodiment without departing from the spirit and scope of the invention.

**What is claimed is:**

1. A purchasing operation system that is commonly used by users such as corporations and organizations and that performs intermediary processing for transactions of a product, a service or the like among the users, comprising:

an approval route setting receiving unit for receiving approval route data for each of the users from an input interface or a user terminal used by the user, and storing the thus-received approval route data in a storage unit, the approval route data being data on an approval route for an internal approval required by each of the users for a transaction of a product or a service, and the approval route data including an attribute of a transaction that is an approval target and an attribute of an approver required for an approval in association with each other;

an approval route control unit for receiving transaction request data of a product or a service from a user terminal, then for selecting approval route data having a transaction attribute that matches that of the transaction request data from the approval route data in the storage unit, each of the approval route data being associated with the user terminal of the user having issued the transaction request data, and for executing internal approval processing for the user on the basis of the approval route data selected here; and

a transaction intermediary execution unit for transmitting data of an order placed or received in the transaction which is the approval target, to a terminal of a transaction counterpart of the user in a case where an approval is obtained from a required approver as a result of the internal approval processing.

2. The purchasing operation system according to claim 1, wherein

the approval route setting receiving unit transmits, to the user terminal or the input interface, input receiving screen data for inputting the approval route data, and receives the approval route data inputted in the input receiving screen from the user

terminal or the input interface, and

the input receiving screen data includes:

an interface for receiving a setting of an approval authority level of each approver included in the approval route; and

an interface for receiving a setting of a required approval authority level of an approver in each approval phase included in the approval route.

3. The purchasing operation system according to claim 2, wherein

data on an approver candidate for each of the users and on an approval authority level of the approver candidate is stored in the storage unit,

upon receipt of the setting of the required approval authority level in each approval phase from the user terminal or the input interface via the input receiving screen, the approval route setting receiving unit specifies, in the storage unit, an approver candidate having an approval authority level equal to or greater than the required approval authority level indicated in the setting received here, then generates an approver candidate list, then transmits data of the approver candidate list to the user terminal or the input interface and receives an instruction indicating a selected approver from the approver candidate list.

4. The purchasing operation system according to claims 2, wherein

the approval route setting receiving unit transmits, to the user terminal or the input interface, the input receiving screen data for inputting the approval route data, and receives the approval route data inputted in the input receiving screen from the user terminal or the input interface, and

the input receiving screen data includes:

an interface for receiving an attribute setting of an ordered product and sold product in a transaction which is an

approval processing target of the approval route;

an interface for receiving payment source information used for an accounting procedure or the like;

an interface for receiving a setting of a transaction amount range of the transaction which is the approval processing target of the approval route; and

an interface for receiving an attribute setting related to the user issuing the transaction request for the product or service by use of the user terminal.

5. The purchasing operation system according to claim 4, wherein:

the approval route control unit receives the transaction request data of the product or service from the user terminal and reads, from the thus-received transaction request data, attribute data of the ordered product and sold product in the transaction, transaction amount data of the transaction, the payment source information and the attribute data related to the user issuing the transaction request instruction; and

the approval route control unit selects approval route data having an attribute of the ordered product and sold product, a transaction amount range, payment source information and an attribute of the user that are set in the approval route data and that match the data read from the transaction request data, from the approval route data in the storage unit, each of the approval route data being associated with the user of the user terminal having issued the transaction request data, and then executes internal approval processing for the user on the basis of the approval route data selected here.

6. The purchasing operation system according to claim 1, wherein

approval route data common to the users is stored in the storage unit, and

when selecting the approval route data having a transaction

attribute that matches that of the transaction request data, the approval route control unit selects the approval route data common to the users in a case where the approval route data having the transaction attribute that matches that of the transaction request data does not exist in the approval route data in the storage unit, each of the approval route data being associated with the user of the user terminal having issued the transaction request data.

7. The purchasing operation system according to claim 6, wherein

the approval route data common to the users is set for each one or plurality of transaction attributes, and

when selecting the approval route data having a transaction attribute that matches that of the transaction request data, the approval route control unit selects, among the approval route data common to the users, certain approval route data common to the users including predetermined attribute data of the transaction included in the transaction request data, in a case where the approval route data having the transaction attribute that matches that of the transaction request data does not exist in the approval route data in the storage unit, each of the approval route data associated with the user of the user terminal having issued the transaction request data.

8. The purchasing operation system according to claim 1, wherein

an address, on a network, of an approver terminal used by an approver set in approval route data is stored, and

when executing the internal approval processing on the basis of the selected approval route data, the approval route control unit transmits approval request data together with the transaction request data to the address of the approver terminal included in the approval route data, then acquires input data indicating an approval or disapproval of the approver from the

approver terminal, then determines if approvals of all approvers defined in the approval route data are obtained, and notifies a transaction execution unit of the result of the determination if it is determined that the approvals from all of the approvers defined in the approval route data are obtained.

9. A purchasing operation processing method executed by a computer that is commonly used by users such as corporations and organizations and that performs intermediary processing of transactions of a product, a service or the like among the users, the method comprising the steps of:

receiving approval route data for each of the users from an input interface or a user terminal used by the user, and storing the thus-received approval route data in a storage unit, the approval route data being data on an approval route for an internal approval required by each of the users for a transaction of a product or a service, and the approval route data including an attribute of a transaction that is an approval target an attribute of an approver required for an approval in association with each other;

receiving transaction request data of a product or a service from a user terminal, then selecting approval route data having a transaction attribute that matches that of the transaction request data from approval route data in the storage unit, each of the approval route data being associated with the user terminal of the user having issued the transaction request data, and executing internal approval processing for the user on the basis of the approval route data selected here; and

transmitting data of an order placed or received in the transaction, which is the approval target, to a terminal of a transaction counterpart of the user in a case where an approval is obtained from a required approver as a result of the internal approval processing.

10. A purchasing operation processing program causing a

computer, that is cooperatively used by users such as corporations and organizations and that performs intermediary processing for transactions of a product, a service or the like among the users, to execute the steps of:

receiving approval route data for each of the users from an input interface or a user terminal used by the user, and storing the thus-received approval route data in a storage unit, the approval route data being data on an approval route for an internal approval required by each of the users for a transaction of a product or a service, and the approval route data including an attribute of a transaction that is an approval target an attribute of an approver required for an approval in association with each other;

receiving transaction request data of a product or a service from a user terminal, then selecting approval route data having a transaction attribute that matches that of the transaction request data from approval route data in the storage unit, each of the approval route data being associated with the user terminal of the user having issued the transaction request data, and executing internal approval processing for the user on the basis of the approval route data selected here; and

transmitting data of an order placed or received in the transaction, which is the approval target, to a terminal of a transaction counterpart of the user in a case where an approval is obtained from a required approver as a result of the internal approval processing.