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TITLE OF INVENTION

An Electronic Commerce System and Method of the same

TECHNICAL FIELD

The present invention relates to electronic commerce (EC) system and electronic commerce method using electronic commerce exclusive bank account and electronic commerce exclusive credit line limit of credit card, more specifically to system and method introducing exclusive bank account for electronic commerce and electronic commerce exclusive credit line limit of credit card, and EC exclusive card of which number is matched with EC exclusive bank account number and mobile phone number.

BACKGROUND ART

Electronic commerce (hereinafter referred to as "EC") is new conceptional commerce using electronic method and technique for overall commodity and service transaction. Electronic commerce has been introduced since internet shopping malls were coming out. A buy may purchases goods regardless of time and place and so do business companies.

Electronic commerce may reduce distribution steps, in industrial and business aspect, between purchaser and maker. As a result, distribution cost and renting fee may be reduced and price for goods is down. Moreover, it has an effect that purchasers can purchase goods regardless of time and place and traffic congestion and parking problem are become taken care of.

Despite good effects described above, there is a problem that conventional


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method for settling price for goods is not safe and convenient. Conventional methods for money settlement on the internet such as credit card, electronic money, etc. have problems on security and convenience. Electronic banking should be realized to activate electronic commerce and play an important role in concluding electronic settlement in electronic commerce

SUMMARY OF INVENTION

An objective of the present invention is to provide an electronic commerce (EC) system on the internet using electronic commerce exclusive bank account & EC exclusive credit line limit of credit card, and mobile phone.

Another objective of the present invention is to provide an electronic commerce (EC) method on the internet using electronic commerce exclusive bank account & EC exclusive credit line limit of credit card, and mobile phone.

To accomplish the above objective, one implementation of the present invention is an electronic commerce (EC) system on the internet, said system comprising,

a customer who wants to purchase a commodity; said customer's mobile phone; said customer's client system on which said customer purchases said commodity;

an EC server system of an administrator who administers said EC system;

a bank server system which handles settlement of commodity price of said EC; and

a communication server system which implements mobile communication for said EC server system and said mobile phone,

wherein said bank server system includes an EC exclusive bank account server system and an EC exclusive freezing account server system.

According to another implementation of the present invention, an electronic commerce (EC) system on the internet, said system comprising,

a customer who wants to purchase a commodity, said customer's mobile phone, said customer's client system on which said customer purchases said commodity;

an EC server system of an administer who administers said EC system;

a credit card company server system which handles settlement of commodity price from said EC; and

a communication server system which implements mobile communication for said EC server system and mobile phone,

wherein said credit card company server system includes database storing EC exclusive credit line limit data.

In a preferred embodiment of the present invention, An electronic commerce (EC) system on the internet, said system comprising,

an EC exclusive bank account server system in which data on EC exclusive bank account are stored for settlement of price from said EC, and which handles receipt and withdrawal of money for said EC; and

an EC exclusive freezing account server system which receives data on said price for ordered commodity from said EC exclusive bank account server system in case an order of said EC is accomplished, and freezes said price for ordered commodity of EC until final confirmation signal is received for payment of said price.

To accomplish another objective, preferred embodiment of the present invention is an electronic commerce EC method using an EC exclusive bank account of a bank and mobile phone, said method comprising steps of,

accessing a customer's an EC server system through a client system;

inputting an EC exclusive card number which is matched with said

customer's mobile phone number and granted by said bank;

requesting commodity purchase order;

checking usable amount of money at said EC exclusive bank account;

receiving check signal for said purchase order of said EC on said customer' mobile phone and checking contents of said order;

approving said purchase order, and settling money for ordered commodity at said EC exclusive bank account, and approving said EC provisionally;

transmitting data on said provisional settlement and approval at said EC exclusive bank account to said supplier's server system

delivering said ordered commodity to said customer after a distributor takes said order commodity from said supplier;

requesting money settlement for said ordered commodity by said supplier;

rechecking approval for said money settlement in response to said supplier's money settlement; and

making an settlement for money of said ordered commodity after said customer sends confirmation signal for said approval for said money settlement.

The present invention will now be described, by way of example and not by way of limitation, with reference to the accompanying sheets of drawings; and other objects, features and advantages of the present invention will be apparent from this detailed disclosure and from the appended claims.

BRIEF DESCRIPTION OF DRAWINGS

Fig. 1a shows an overall construction of electronic commerce using electronic commerce exclusive bank account and mobile phone according to the present invention.

Fig. 1b shows an overall construction of electronic commerce using

electronic commerce exclusive credit line limit of credit card and mobile phone according to the present invention.

Fig. 2a shows a flow diagram illustrating internet electronic commerce using electronic commerce exclusive bank account and mobile phone according to the present invention.

Fig. 2b shows a flow diagram illustrating internet electronic commerce using electronic commerce exclusive credit line limit of credit card and mobile phone according to the present invention.

Fig. 3 shows a construction of web page according to the present invention.

Fig. 4 shows a construction of each server system installed in the bank according to the present invention.

Fig. 5 shows a construction in which a server system for general bank account is added in the bank according to the present invention.

Fig. 6 shows a construction in which several banks use a common server system for freezing account according to the present invention.

Fig. 7 shows a construction of electronic commerce card according to the present invention.

Fig. 8 shows a construction of first exemplary embodiment showing medical electronic commerce under the environment of separation of the dispensary from the doctor's office.

Fig. 9 shows a construction of second exemplary embodiment showing medical electronic commerce under the environment of separation of the dispensary from the doctor's office.

Fig. 10 shows a construction of other exemplary embodiment showing electronic commerce for internet insurance.

BEST MODE FOR CARRYING OUT THE INVENTION

Fig. 1a shows an overall construction of electronic commerce using electronic commerce exclusive bank account and mobile phone according to the present invention.

As shown in Fig 1a, electronic commerce (hereinafter referred to as "EC") system according to the present invention is comprised of a client system 10 of customer, mobile phone 15, EC server system 20, bank server system 30, EC exclusive bank account server system 40, EC exclusive freezing account server system 50, server system of mobile phone company 60, server system of supply company 70 and server system of distribution company 80.

Customer's client system 10 according to the present invention is a computer system used by a customer who wants to buy goods or service through internet electronic commerce. It should include a computer system of shop, when a customer purchases a commodity in an off-line shop, not by his/her personal computer system. The customer should have a mobile phone 15 with him/her.

EC server system 20 according to the present invention is connected with customer's client system 10, bank server system 30, server system of mobile phone company 60, server system of supply company 70 and server system of distribution company 80 respectively, and administers the above systems. The administrator of the present invention is the main body who administer and manage EC exclusive bank account, EC exclusive freezing account and EC exclusive withdrawing account each installed in a bank server system 30 for the electronic commerce according to the present invention.

Bank server system 30 according to the present invention includes EC exclusive bank account server system 40 to implement internet electronic commerce and data on EC exclusive bank account numbers stored in EC

exclusive bank account server system 40 are matched with mobile phone number data. And EC exclusive card number is matched with these two numbers. EC exclusive card number plays an important role in prevention of personal information drain, personal information security and authentication when a customer tries to purchase goods on the electronic commerce web site according to the present invention

EC exclusive bank account is installed in a bank for the electronic commerce and used to settle an account exclusively for electronic commerce. A customer may be given a credit line by the bank according to the present invention.

In case a customer is given a credit line by the bank and purchase goods on the electronic commerce web site of the present invention, provisional credit will be formed in the customer's EC exclusive bank account and money for the price of the purchased goods will be settled at supplier's bank account which is designated for settlement just after the customer's confirmation for the settlement. Amount of money for EC is transferred EC exclusive bank account to supplier's account designated for EC settlement.

EC exclusive freezing account server system 50 according to the present invention freezes all the money for settlement caused through EC and transfer money to be settled to supplier's account designated for EC settlement in case bank server system 30 receives confirmation signal of safe EC transaction.

A customer should open an EC exclusive bank account at a bank for EC according to the present invention and a supplier should also open an EC exclusive bank account to have money for goods to be transferred from EC exclusive bank account server system. But the supplier may use normal bank account for EC according to the present invention.

Financial institutions which are authorized to provide credit to their

customers may install EC exclusive account server system 40 and EC exclusive freezing account server system 50.

Telecommunication server system 60 includes SMS (Short Message Service) system or ARS (Automatic Response Service) system. Telecommunication server system 60 may be install in a mobile phone company, or administer of EC web server system 20 according to the present invention may install telecommunication server system 60 separately.

Telecommunication server system 60 includes database in which user's personal information is stored, such as mobile phone numbers, user names, social security number and so on.

For electronic commerce, according to the present invention, a customer's mobile phone 15 number and EC exclusive bank account number or normal bank account number are matched together. When a customer orders goods on the EC website according to the present invention, data on contents of the order are forwarded to the customer's mobile phone and the customer checks the contents of EC order on his mobile phone.

Supplier's server system 70 according to the present invention is administered by a supplier of EC goods. Distributor's server system 80 according to the present invention is administered by a distributor who delivers EC goods from the supplier to the customer.

The followings are composition of database of each sub system which is located around EC server system 20 according to the present invention.

EC server system 20 according to the present invention includes database for customer information matched with EC exclusive card number, database for commodity information, database for supplier information, database for commodity order number, database for commodity supply number, database for transaction type database, database for mobile phone number, database for

credit card number It is applied to explanation in Fig. 1b.

Database for customer information matched with EC exclusive card number stores credit card number It is applied to explanation in Fig. 1b, EC exclusive bank account number, normal bank account number, basic customer information except mobile phone number age, sex, address, fondness, job, etc.. Database for commodity information stores commodity names, manufacturer, price, manufactured date, commodity number, commodity feature, commission rate, etc. Database for commodity order number stores supplier's ID/password, commodity price, commission settlement, customer and EC exclusive card number.

Bank server system 30 includes database storing EC exclusive bank account number, and EC exclusive withdrawal bank account number. And freezing account server system 50 stores EC exclusive withdrawal bank account number.

Communication server system 60 includes database for customer's mobile phone number and database for EC exclusive card number. Customer's mobile phone number is matched with EC exclusive card number and EC exclusive bank account number.

The followings are relation between supplier and distributor for EC according to the present invention.

Supplier's server system 70 according to the present invention is constructed as an intranet when supplier does not have server system. But when supplier manages his own server system he constructs server system. Supplier's sever system 70 is connected with EC server system 20 of the present invention. Icon for intranet is installed in supplier's website. Commodity supply data are pushed in real-time in the supplier's website and at this moment supplier's computer will output signal for commodity supply or supplier can

receive this signal on his mobile phone personal digital assistant PDA or internet phone in real-time.

Supplier's intranet is open by inputting ID and password. Supplier's website is comprised of ID/password input window, commodity price settlement confirmation window, supplied commodity data check window, supplier's information modification window, commodity change window, commodity order number check window and settlement request window.

ID/password input window is used to input ID/password to open supplier's website. Commodity price settlement confirmation window is used to check commodity price settlement. Supplied commodity data check window is used to check data on commodity which is supplied to a customer. Supplier's information modification window is open by inputting another password. Commodity order number check window and settlement request window is used to check the number of commodity which distributor receives from the supplier and demand price settlement to supplier.

Database of supplier's server system 70 stores supply date, supply number, commodity name, quantity of commodity, price, delivery date, supply conformation and so on.

Supplier delivers ordered commodity to a distributor and check the customer's order number and delivery confirmation signal. And then supplier send signal for settlement of price. When a customer's confirmation signal for the price settlement arrives at the supplier, frozen amount of money to commodity price at EC exclusive freezing account server system 50 will be wired to supplier's withdrawal bank account.

Distributor's server system 80 according to the present invention is constructed as an intranet when distributor does not have server system. But when distributor manages his own server system he constructs server system.

Distributor's sever system 80 is connected with EC server system 20 of the present invention. Icon for intranet is installed in distributor's website. Commodity supply data are pushed in real-time in the distributor's website and at this moment distributor's computer will output signal for commodity supply or distributor can receive this signal on his mobile phone personal digital assistant PDA or internet phone in real-time.

Distributor's intranet is open by inputting ID and password. Distributor's website is comprised of ID/password input window, commodity price settlement confirmation window, distributed commodity data check window, distributor's information modification window, commodity change window, commodity order number check window and settlement request window. Distribution signal is transmitted to the customer at each distribution point.

Flow of supply and distribution of the present invention is as follows:

The customer checks the order contents on the web, and the customer's EC exclusive card number, mobile phone number and bank account number/credit card number are checked at the database of web server system 20. And then usable amount of money at EC exclusive credit line bank account/credit card company. If the customer is authorized to settle an account, settlement signal is transmitted to the mobile phone.

The customer checks the amount of money for settlement and order number for settlement, and sends settlement signal to the mobile phone.

Data on ordered commodity stored in database of web server system 20 are transmitted to supplier's server system 70 and distributor's server system 80 via communication server system 60. Data on distribution moving situation is transmitted to the customer's mobile phone at every distribution point.

Final distribution point is informed to the customer thought phone.

According to the present invention, when the customer gets access to web

server system 20 for electronic commerce on the internet, the customer does not need to reveal personal information for customer identification. And safe secured transaction on the internet is secured because the customer requests settlement for the price web server system 20 and EC exclusive bank account server system 40 of bank server system 30 on receiving ordered commodity perfectly and safety.

Fig. 1b shows an overall construction of electronic commerce using electronic commerce exclusive credit line limit of credit card and mobile phone according to the present invention.

As shown in fig. 1b, electronic commerce system according to the present invention is comprised of a customer's client system 10, mobile phone 15, EC server system 20, credit card company server system 35, a bank 45 with which credit card company and supplier have dealings, communication server system 60, supplier's sever system 70 and distributor's server system 80.

The difference from fig. 1a in construction is that bank server system 30 is substituted for credit card company server system 35. Database storing data on EC exclusive credit limit for settlement is installed in credit card company server system 35. This database stores data on EC exclusive credit limit for settlement according to the present invention. The EC exclusive credit limit for settlement is granted to a customer separately from credit limit of normal credit card.

Credit card company server system 35 includes database storing data on customers' credit limit for EC, database storing customers' credit card numbers and database storing EC exclusive card numbers which are matched with customers' mobile phone numbers and credit card numbers.

The EC exclusive credit limit is credit line limit of credit card by agreement between customer and credit card company and it is used in the EC according to

the present invention. The settlement for the price for commodity of EC which is temporarily approved is finally settled when a customer approves settlement.

EC exclusive bank account in fig. 1a can be operated with temporary approval for settlement in credit card company server system. Additionally, a credit card company can be replaced with a department store. In this case, a credit card will be replaced with a department store card.

Fig. 2a shows a flow diagram illustrating internet electronic commerce using electronic commerce exclusive bank account and mobile phone according to the present invention. Fig. 2b shows a flow diagram illustrating internet electronic commerce using electronic commerce exclusive credit line limit of credit card and mobile phone according to the present invention.

Referring to fig. 2a and fig. 2b, the followings are the explanation of electronic commerce flow according to the present invention.

Step1 110: a customer searches for commodities and requests for commodities purchase on the website of EC server system 20.

A customer has an EC exclusive bank account or an EC credit line limit of credit card. A customer gets an access to web server system 20 and inputs an EC exclusive card number which is matched with the customer's mobile phone number

When a customer orders goods on the EC website according to the present invention a customer check general settlement on the order panel, and may be granted order number and may deposit money for the price of the goods in the EC exclusive bank account.

Step2 120: EC server system checks a customer's EC exclusive card number and sends EC exclusive card number to bank server system or credit card company server system to check customer's deposit money at the bank

account and send back data on deposited money at the bank account to EC server system 20.

Step3 130: EC server system 20 sends data on the order number, contents of the order, etc. to a customer's mobile phone 15. A customer sends confirmation of the order signal to EC server system 20 on his mobile phone in case the data are correct.

Step4 140: After EC server system 20 receives the order confirmation signal from the customer it sends the signal to bank server system 30 or credit card company server system. Money for the EC order is temporarily settled in EC exclusive bank account server system 40 installed in bank server system 30 in the bank. In this case the customer's usable deposit is reduced.

In case of credit card company server system, settlement for the price of commodity of EC is reserved until a customer give final confirmation.

Step5 150: The information of step 4 relating to EC order is sent to supplier's server system 70 and distributor's server system 80.

Step6 160: Distributor receives goods from supplier and delivers them to the customer. When distributor delivers the goods he should receive order number from the customer and deliver it to supplier.

Step7 170: Supplier transmits the order number to EC server system 20 for the settlement of the price of EC commodity, converting the order number into supplier's ID and Password.

When EC server system 20 receives request for the settlement of frozen money it sends request signal for settlement to the customer's mobile phone 15 for final confirmation for the settlement. After the customer sends confirmation signal step 8 proceeds. In case the customer does not send confirmation signal, step 8 proceeds in certain time.

If the customer claims the settlement of the money, the money to be

settled will be frozen until grievance mediation is finished. In this case, customer's credit line limit is reduced. The customer will be given penalty if suspension is attributed to his mistake.

Step8 180: EC server system 20 receives confirmation signal for settlement from the customer and send this signal to bank server system or credit card company server system and then money for the price of EC commodity will be settled. Money to be settled is total of the price of commodity of EC excluding commission imposed by EC manager of the present invention.

In conclusion, when a customer orders goods, he input EC exclusive card number and order. The former is matched with the customer's mobile phone 15 number and given by a bank or credit card company, and the latter corresponds to a commodity. The customer receives the card number and order number on his mobile phone from EC server system 20. In case the card number and order number are correct a bank or credit card company approve money settlement for the EC. The EC exclusive card numbers may be classified in accordance with customer's age and commodity purchase type.

Bank server system 30 includes EC exclusive bank account with credit line limit database which grants a certain amount of credit line limit for electronic commerce on the internet. And the EC exclusive credit lines are classified into adolescent credit line, company purchase credit line and general credit line. Money in EC exclusive bank account with credit line limit may be deposited and settled in EC exclusive freezing account in a bank. Frozen money to be settled in EC exclusive freezing account may be withdrawn to EC exclusive withdrawal account 47 open by supplier.

Communication server system 60 according to the present invention is connected with a customer's mobile phone 15, EC server system 20 and bank server system 30.

Supplier according to the present invention requests settlement of money for EC to bank server system 30 or credit card company server system 35, after supplier receives the order number from a customer. Supplier accesses EC server system 20 with supplier's ID and password. EC server system sends reconfirmation request signal for settlement of EC to a customer on his mobile phone. In case a customer send the reconfirmation signal for settlement to a bank or credit card company, money for the price of EC commodity will be settled. If the customer sends no signal it is presumed to get the money settled. The customer and EC sever system 20 receive signal for distribution at each delivery point.

Fig. 3 shows a construction of electronic commerce EC web page according to the present invention.

As shown in fig. 3, EC web page includes input window which EC exclusive card number is input. A customer inputs the card number and web page is open in accordance with property of the card number. For example, if the card number contains teenage property web window displaying teenage commodities will be open and if the card number contains adult property web window displaying adult goods will be open. A customer chooses goods to buy by clicking and the goods are automatically contained in the shopping cart. A customer does not have to input destination, bank account number and other personal information additionally.

EC exclusive card number is matched with a customer's mobile phone number and one of credit card number, EC exclusive bank account number and normal bank account number.

The followings is flow in which a customer get access to EC website according to the present invention.

A customer gets access to the EC website, and opens main window, and inputs EC exclusive card number in card number input window. Construction of website is differentiated according to the property of the card number. Property of the EC exclusive card number recognizes 1) mobile phone number, 2) email address and 3) a customer's age, sex & destination of goods.

Fig. 4 shows a construction of each server system installed in the bank according to the present invention. Fig. 5 shows a construction in which a server system for general bank account is added in the bank according to the present invention. Fig. 6 shows a construction in which several banks use a common server system for freezing account according to the present invention.

As shown in fig. 4, fig. 5 and fig. 6, bank server system 30 includes EC exclusive bank account server system 40 and EC exclusive freezing account server system 50.

EC exclusive bank account server system 40 is comprised of EC bank account with credit line limit database 42 which grants certain amount of credit line limit for EC, EC prepayment account database 45 and EC withdrawal exclusive account database 47.

EC bank account with credit line limit database stores data on bank account which grants credit line limit to a customer, basic information for credit line agreement such as name, social security number, business registration number, etc, bank account number and EC exclusive card numbers.

EC bank account with credit line limit is specially established for electronic commerce. A customer is given the EC bank account to settle all the payment from EC at EC server system.

Prepayment account database is installed and the prepayment account according to the present invention is account in which a customer deposits a

certain amount of money at bank first. When he purchases goods using EC he uses the money deposited at the bank to pay the price.

Besides, EC exclusive withdrawal account database is installed to withdraw money to be paid from EC. The money from EC can be withdrawn from only EC exclusive bank account server system 20.

"Credit line account" which grants credit line to a customer for EC is an account which is established by an agreement between a customer and a bank. The method for settlement at the "EC exclusive credit line account" is that credit line is temporarily generated at EC exclusive bank account first and money for EC will be settled at supplier's withdrawal exclusive bank account.

EC exclusive freezing account server system 50 includes database for ordered goods, supply number which is matched with commodity order number, supplier's account, EC exclusive bank account with credit line, and bank identification code in case several banks use common EC exclusive freezing server system.

The supply number which is matched with commodity order number is granted to each commodity displayed on the EC website for EC according to the present invention. When EC order is accomplished the commodity order number is given to purchaser, and the supply number of commodity is generated at EC server system 20 and transmitted to bank server system 30 or credit card company server system 35, supplier's server system 70, distributor's server system 80. If commodity order number is not converted into commodity supply number at EC server system 20 and supplier knows the commodity order number supplier can input the commodity order number and have payment settled.

A customer opens an EC exclusive bank account through a credit line agreement with a bank and supplier also opens an EC exclusive withdrawal account. Money at EC exclusive withdrawal account can be withdrawn from

only EC exclusive freezing account. When a customer open an bank account for electronic commerce, he may open an EC exclusive bank account and an EC exclusive withdrawal account simultaneously. A customer may be a purchaser or supplier. For example, in auction on the internet, a customer can purchase and supply goods together so a customer using internet auction may be a purchaser or buyer together. Besides, a company may be a purchaser or supplier of goods at the same time. Because of this reason, EC exclusive card may recognize data on purchaser's property EC exclusive bank account and supplier's property EC exclusive withdrawal account.

A customer gets access to EC server system 20 according to the present invention and purchases goods. After ordering goods order signal is transmitted to the customer through communication server system 60 for order contents check. The customer sends confirmation signal for the order contents check to EC server system 20 through communication server system 60.

EC server system 20 sends signal concerning commodity order to EC exclusive bank account server system 40 and EC exclusive freezing account server system 50. The signal includes the customer's confirmation signal together with data on EC exclusive card number, names of ordered goods, commodity order number, price of ordered commodities and so on. And EC exclusive bank account server system 40 finds out bank account number which is matched with EC exclusive card number and money for the price of ordered commodities is transferred to EC exclusive freezing account server system 50 to be frozen. EC exclusive freezing account server system 50 finds out supplier's account number and a customer's mobile phone number. The former is matched with order commodity number and the latter is matched with EC exclusive card number.

And as shown in fig. 5, only money at EC exclusive bank account with credit line or EC exclusive prepayment account of EC exclusive bank account

server system 40 at bank may be frozen at EC exclusive freezing account server system 50 to settle payment of EC. Besides, money deposited at normal bank account server system 49 may be frozen at EC exclusive freezing server system 50 until a customer hands over order number to distributor and sends final confirmation signal for payment settlement.

And as shown in fig. 6, several EC exclusive bank account server system may share common EC exclusive freezing account server system.

Fig. 7 shows a construction of electronic commerce card according to the present invention. As shown in fig. 7, there are six different EC exclusive cards.

First EC exclusive card has card number which is matched with EC exclusive bank account having credit line number and mobile phone number.

Second EC exclusive card number which is matched with normal bank account number and mobile phone number.

Third EC exclusive card has card number which is matched with normal credit card number and mobile phone number.

Fourth EC exclusive card has card number which is matched with normal credit card number, number of credit card which has EC exclusive credit line and mobile phone number.

Fifth EC exclusive card has card number which is matched with number of credit card which has EC exclusive credit line and mobile phone number.

Sixth EC exclusive card has card number which is matched with code having credit line data and mobile phone number.

EC exclusive card stores matching codes which are matched with data on customer's ages, purchase trend, type of purchaser, sex stored in each server system according to the present invention.

When a customer tries to purchase goods on the EC website, he does not

have to input normal bank account number, EC exclusive bank number or mobile phone number.

In case confirmation signal for the EC order is combined with commodity order data of the EC server system 20, EC exclusive card number and commodity order data can access bank server system.

Because of the reason, the present invention can solve problems on individual data drain, security and authentication,

Guarantee of the security and authentication can be applied to the case using credit card company server system.

In the construction of EC exclusive card according to the present invention, the shape of the card is similar to that of regular credit card.

EC exclusive card number recognizes EC exclusive bank account number, withdrawal bank account number, mobile phone number, e-mail address and so on. A customer does not need to input bank account number, credit card number, individual data, commodity arrival place and so on except EC exclusive card number.

Electronic commerce EC system and electronic commerce method of present invention using electronic commerce exclusive bank account and electronic commerce exclusive credit line limit of credit card, and personal mobile phone can be applied to the case of separation of the dispensary from the doctor's office.

Fig. 8 shows a construction of first exemplary embodiment showing medical electronic commerce under the environment of separation of the dispensary from the doctor's office. The flow of electronic commerce under en environment of separation of the dispensary from the doctor's office is the followings shown in fig. 8.

The first embodiment relates to cases in which hospital receives an injection, and a patient receives a preparation for medicine at a hospital from a remote drugstore.

Step 1: A patient 200 visits a hospital 210 and presents medical card (hereinafter referred to as "medinec card"). The medinec card number is matched with mobile phone number and credit card number.

Step 2: A doctor in charge of the patient inputs contents of a medication prescription at the EC website according to the present invention.

Step 3: Data on the prescription for medication are transmitted to a drugstore 230 which is a member of the present invention. The drugstore 230 inputs the price for the medication.

Step 4: the drugstore 230 checks whether credit card company can approve the patient's credit card.

Step 5: After the check, push "send button" on the terminal of drugstore 230.

Step 6: Order number for medication, the price of medication and money to be possibly used at the patient's credit card are transmitted to his mobile phone 205 through communication server system 250.

Step 7: The patient orders the medication after checking the data on his mobile phone. The patient inputs order number, settlement way such as by installment, by cash or payment in a lump sum.

Step 8: Contents of order are transmitted to credit card company 24 via communication server system 250

Step 9: In case paid by credit card, contents of order are transmitted to credit card company.

Step 10: The drugstore 230 delivers the medication to the hospital 210 and the patient 200 transmits order number to member drugstore 230 via his mobile

phone.

Step 11: The member drugstore 230 inputs order number and requests payment for the medication to EC server system 220.

Step 12: EC server system 220 request approval for payment to credit card company 240, and credit card company 240 approves payment.

The flow of second embodiment is the followings. The second embodiment relates to the case in which a patient receives prescription for medication at a hospital and purchase the medication at a drugstore in person and take it at home.

Step 1: A patient 200 visits hospital 210 and hand over his medical card.

Step 2: A doctor in charge at the hospital 210 inputs contents of prescription for medication at the patient's web page of medical website of the present invention.

Step 3: A patient 200 visits a member drugstore 230, and shows his medical card or number of medical card so called "medinec card".

Step 4: Member drugstore 230 inputs medinec card number.

Step 5: EC server system sends request signal for opening a prescription for medication to patient's mobile phone 205.

Step 6: A patient 200 approves opening a prescription for medication on his mobile phone 205.

Step 7: A prescription for medication is transmitted to member drugstore 230 through EC server system 220 so the drugstore can open the prescription.

Step 8: The member drugstore 230 fills the prescription and checks the price and payment method by cash or by patient card.

Step 9: In case of payment by credit card, data on method of payment by credit card are transmitted to credit card company server system 240 and check possibility of settlement.

Step 10: In case payment by credit card is possible, signal for payment by credit card is transmitted to communication server system 250.

Step 11: Communication server system 250 transmits data on money for payment and the balance in the credit card.

Step 12: A patient 200 settles the payment after he checks data on money for payment.

Step 13: Data on payment are transmitted to EC server system 220 through communication server system 250.

Step 14: EC server system 220 sends settlement signal to credit card company 240.

Step 15: Approval for settlement of credit card company is the same as that of first embodiment.

Step 16: Data on approval for settlement is transmitted to member drugstore 230.

Step 17: Member drugstore 230 delivers medication to a patient 200.

Fig. 9 shows a construction of other exemplary embodiment showing medical electronic commerce under the environment of separation of the dispensary from the doctor's office. The third embodiment of medical electronic commerce relates to the case in which medical supplies, health enhancing medicine and medical instruments are purchase on the EC website according to the present invention.

Referring to fig. 9, the flow of the third embodiment is explained as:

Step 1: A customer browses medical supplies on EC website of EC server system 220 on his computer system 270, and inputs medinec card number and sends contents of order to EC server system 220.

Step 2: EC server system 220 checks the contents of order, and stores

them in buffer for provisional confirmation.

Step 3: EC server system 220 transmits the customer's check on approval for order, order price & order number to communication server system 250.

Step 4: Communication server system 250 transmits the customer's check on approval for order, order price & order number to the customer's mobile phone 205, and the customer approves the order.

Step 5: Communication server system 250 transmits the approval signal to web server system 220.

Step 6: Web server system 220 sends approved customer's order signal to supplier's server system 280 and distributor's server system 290.

Step 7: Supplier and distributor deliver ordered commodity to place designated by the customer 200.

Step 8: Distributor receives order number and confirmation letter after delivered ordered commodity.

Step 9: Supplier requests settlement for the price by inputting the order number.

Step 10: Web server system 220 transmits the settlement data from supplier to credit card company 240, and requests approval for settlement.

Step 11: Credit card company 240 approves the settlement for the price from supplier's server system 280, and transfers money for the settlement after excluding commission of credit card company 240 and web server system 220.

The credit card company may be substituted for bank.

As another embodiment of the present invention, the present invention may be applied to a case in which a customer purchases goods or service at off-line shop or store, Not on the internet and pay by credit card but the customer is not a rightful holder.

Conventionally, when a rightful holder of credit card purchases goods at a

store and pay by credit card, validation of the credit card is checked on the credit card terminal at the store. If the credit card is valid for paying the price, at last the customer put a signature on.

In conventional system, when the customer loses the credit card, unjust holder of the credit card is likely to misuse it.

According the another embodiment of the present invention, when rightful holder of a credit card uses credit card for paying price, owner of a store checks validation of the credit card on the credit card validation check terminal. The check signal is transmitted to communication server system and checks if the credit card number is matched with phone number store at database connected with communication server system. The database stores data on credit card numbers and phone numbers matched with credit card numbers. Communication server system sends check signal for payment by credit card to telecommunication apparatus which number is matched with credit card number. The rightful holder of the credit card receives check signal for payment on his cell phone or PCS phone. The rightful holder who receives the check signal transmits confirmation signal for the check signal via his communication apparatus, and this signal is transmitted to communication server and credit card company server. Credit card company checks that credit card is used by rightful holder. The present invention may be applied to the internet insurance system.

Fig. 10 shows a construction of other exemplary embodiment showing electronic commerce for internet insurance. As shown in fig. 10, the flow of electronic commerce concerning internet insurance is as follows:

Step1: A client gets access to web server 310 via client's computer. When homepage according to the present invention is loaded on client PC 300 from web server 310, client browses a variety of insurances on the homepage

and clicks on hyperlinks of target insurance items of insurance companies

Step 2: After clicking on the hyperlink part, homepage about insurance company or insurance items is loaded on client PC 300 from insurance company server system 320 separate window is open. Client clicks on icons of insurance items which he want to buy and order.

Step 3: The order signal is transmitted to client's mobile phone 305 through SMS or ARS systems via communication server system 330. If the order information is complied with original order contents, confirmation signal by client is transmitted to web server system 310 via communication server system 330 and web server system 310 sends the order confirmation signal to insurance company server system 320 and credit card company server system 340. Insurance company server system 320 rechecks the client order, and data on order number of ordered insurance items is transmitted, and client receives this number.

Credit card company server system 340 stores data on the amount of payment concerning insurance articles in database. Client's credit line limit at the credit card company is reduced as much as the amount of monthly payment.

If a client chooses automatic transfer as a method for bill settlement, said data on order confirmation is transmitted to EC exclusive credit line account server system and the amount of payment as much as monthly payment is frozen at EC exclusive freezing account server.

Step 4: After web server system 310 receives data on order confirmation, data on order information are transmitted to service company server system 350. Service company receives insurance certificate matched with data on order information from insurance company and delivers it to client. On receiving the insurance certificate, client hands over insurance application paper and order number of insurance article to service company. Service company delivers

order number and the paper to insurance company 320

Step 5: Insurance company with order number gets access to web server system 310, and settlement window is open by inputting ID of insurance company and password, and order number is input. These signal input is transmitted to client's mobile phone 305 by means of ARS or SMS of communication company server system 330, and client checks order number and settlement check signal is transmitted to credit card company server system 340 via communication server system 330 and web server system 310. Credit card company server system 340 which received the settlement signal approves settlement for insurance payment temporarily approved in step 3.

The flow of electronic commerce concerning insurance may have more steps. Client transmits order confirmation signal to insurance company server and credit card company server in step 3, and insurance company server rechecks genuine order by a client, and data on order number of insurance article is transmitted to client's mobile, and client receives this number.

As described above, according to the present invention, a buyer may settle the price after he receives goods, and supplier may be prevented from damage because of false order. The present invention may accomplish cash transaction and security of transaction and prevent drain of personal information,

The present invention has a variety of advantageous effects. A customer can input EC exclusive card number, commodities & destination. Order can be accomplished when the customer receives order message and possibility of price settlement is checked. And drain of member information and false order is prevented.

In the present invention, money temporality settled (credit line limit at EC exclusive bank account or credit card company) will be finally settled when supplier supply the customer with ordered goods, and confirmation signal for this

is input by the customer. Accordingly, it is presumed that the customer pay the prices in advance so the supplier get paid by cash. The present invention secures transaction by cash.

It will be apparent that features of the various embodiment described or incorporated herein may be combined, and that various features may be utilized independently of others, and that many further modifications and variations may be effected without departing from the scope of the teachings and concepts of the present disclosure.

CLAIM

What is claimed is:

1. Electronic commerce EC system on the internet,

said system comprising,

a customer who wants to purchase a commodity; said customer's mobile phone; said customer's client system on which said customer purchases said commodity;

an EC server system of an administrator who administers said EC system;

a bank server system which handles settlement of commodity price of said EC; and

a communication server system which implements mobile communication for said EC server system and said mobile phone,

wherein said bank server system includes an EC exclusive bank account server system and an EC exclusive freezing account server system.

2. The system of claim 1, wherein said customer possesses an EC exclusive card which number is matched with said customer mobile phone number and said EC exclusive bank account number and said customer can get access to said EC server system using said EC exclusive card number.

3. The system of claim 2, wherein said EC exclusive card number is given according to the customer's age or commodity purchase type.

4. The system of claim 1, wherein said customer orders a commodity on said EC server system and order check signal is transmitted to said mobile phone,

and when said order check signal is correct said customer sends confirmation for order check signal to said EC server system.

5. The system of claim 4, wherein said EC server system receives said confirmation signal and said bank server system finds out said customer's EC exclusive bank account and price of commodity for settlement is frozen at said EC exclusive freezing account server system.

6. The system of claim 1, said system further comprising:

a supplier's server system which manages supply of said ordered commodity; and

a distributor's server system which manages delivery of said ordered commodity to said customer.

7. The system of claim 1, wherein said EC exclusive bank account server system includes database on bank account with credit-line-limit and said database includes credit line limit for adolescents, credit line limit for business purchase and normal credit line limit.

8. The system of claim 1, wherein money at said EC exclusive bank account server system is deposited in and withdrawn from freezing account of said EC exclusive freezing account server system, and

said money frozen in said EC exclusive freezing account server system is withdrawn to an EC exclusive withdrawal account which is open by a supplier of a commodity which is ordered by said customer.

9. The system of claim 1, wherein said customer receives delivery signal

at delivery point concerning ordered commodity on said mobile phone.

10. The system of claim 6, wherein said supplier's server system receives commodity order number from said customer or said distributor, said number which is matched with commodity ordered by said customer, at request for money settlement, and gets access to said EC server system by inputting supplier's ID and password, and inputs said commodity order number, and sends request for money settlement check signal to said customer's mobile phone, and in case approval signal is sent through said mobile phone in response to said request for money settlement signal, said money for said EC settlement which is frozen in said EC exclusive freezing account server system of said bank account server is transferred to said supplier's withdrawal bank account.

11. An electronic commerce EC system on the internet, said system comprising,

a customer who wants to purchase a commodity, said customer's mobile phone, said customer's client system on which said customer purchases said commodity;

an EC server system of an administer who administers said EC system;

a credit card company server system which handles settlement of commodity price from said EC; and

a communication server system which implements mobile communication for said EC server system and mobile phone,

wherein said credit card server system includes database storing EC exclusive credit line limit data.

12. The system of claim 11, wherein said credit card company is

replaced with a department store.

13. The system of claim 11, wherein said customer possesses an EC exclusive card of which number is matched with said mobile phone number and said credit card number, and gets access to said EC server system for electronic commerce by using said EC exclusive card number.

14. The system of claim 13, wherein said EC exclusive card numbers are classified in accordance with customer's age or commodity purchase type.

15. The system of claim 11, wherein said customer requests commodity purchase order to said EC server system, and said mobile phone receives check signal for said order, and in case said order signal is correct said customer sends confirmation signal for said order to said EC server system on said mobile phone.

16. The system of claim 15, wherein said EC server system receives said confirmation signal, and said credit card company server system reserves commodity price settlement from EC and said customer's EC exclusive credit line limit decreases.

17. The system of claim 11, said system further comprising,

a supplier's server system which manages supply of ordered commodity; and

a distributor's server system which handles delivery of ordered commodity to said customer.

18. The system of claim 11, wherein said credit card company server

system includes database on EC exclusive credit line which grants credit line limit for said EC, and said database includes data on adolescent limit, company purchase limit and regular purchase limit.

19. The system of claim 11, wherein said customer receives delivery signal at delivery point for ordered commodity on said mobile phone.

20. The system of claim 17, wherein said supplier's server system receives commodity order number, which is matched with ordered commodity by said customer, from said distributor or said customer for money settlement of said EC to said credit card company server system, and gets access to said EC server system by inputting supplier's ID and password, and inputs said commodity order number, and sends request for money settlement signal to said customer's mobile phone, and in case approval signal for said order is sent through said mobile phone in response to said request for money settlement signal, said money for said EC settlement which is reserved in said credit card company server system is transmitted to said supplier's withdrawal bank account.

21. An electronic commerce EC system on the internet, said system comprising,

an EC exclusive bank account server system in which data on EC exclusive bank account are stored for settlement of price from said EC, and which handles receipt and withdrawal of money for said EC; and

an EC exclusive freezing account server system which receives data on said price for ordered commodity from said EC exclusive bank account server system in case an order of said EC is accomplished, and freezes said price for ordered commodity of EC until final confirmation signal is received for payment of

said price.

22. The system of claim 21, wherein said EC exclusive bank account server system includes a credit line account database for said EC which stores data on credit line account which grants credit line limit for said EC.

23. The system of claim 21, wherein said EC exclusive bank account server system includes an EC exclusive prepayment database which stores data on prepayment account which a customer deposit a certain amount of money for said EC in advance.

24. The system of claim 21, wherein said EC exclusive bank account server system includes an EC exclusive withdrawal account which stores data on withdrawal account for withdrawal of money from said EC.

25. An electronic commerce EC method using an EC exclusive bank account of a bank and mobile phone, said method comprising steps of,

accessing a customer's an EC server system through a client system;

inputting an EC exclusive card number which is matched with said customer's mobile phone number and granted by said bank;

requesting commodity purchase order;

checking usable amount of money at said EC exclusive bank account;

receiving check signal for said purchase order of said EC on said customer' mobile phone and checking contents of said order;

approving said purchase order, and settling money for ordered commodity at said EC exclusive bank account, and approving said EC provisionally;

transmitting data on said provisional settlement and approval at said EC

exclusive bank account to said supplier's server system

delivering said ordered commodity to said customer after a distributor takes said order commodity from said supplier;

requesting money settlement for said ordered commodity by said supplier;

rechecking approval for said money settlement in response to said supplier's money settlement; and

making an settlement for money of said ordered commodity after said customer sends confirmation signal for said approval for said money settlement.

26. An electronic commerce EC method using an EC exclusive credit line of credit card company and mobile phone, said method comprising steps of,

accessing a customer's an EC server system through a client system;

inputting an EC exclusive card number which is matched with said customer's mobile phone number and granted by said credit card company;

requesting commodity purchase order;

checking usable amount of money at said credit card company server system;

receiving check signal for said purchase order of said EC on said customer' mobile phone and checking contents of said order;

approving said purchase order, and settling money for ordered commodity at said credit card company server system, and approving said EC provisionally;

transmitting data on said provisional settlement and approval at said credit card company server system to said supplier's server system and distributor's server system;

delivering said ordered commodity to said customer after a distributor takes said order commodity from said supplier;

requesting money settlement for said ordered commodity by said supplier;

rechecking approval for said money settlement in response to said supplier's money settlement; and

making an settlement for money of said ordered commodity after said customer sends confirmation signal for said approval for said money settlement.