

A voucher issuance and redemption method and system for integrating a plurality of promoters

Field of the invention

【0001】 The present invention relates to a method and system to integrate voucher issuance and redemption for promoters, and more particularly to a method and system in which a promoter pays the face value corresponding to the voucher and the residual amount of a specific product or service of the merchant when the user makes a purchase using various vouchers issued on various electronic platform and for disbursing amounts of money according to a discount ratio, fixed discount amount, and the money corresponding to a certain specific product or service in accordance with vouchers in various electronic devices or physical platforms to merchants' accounts when the vouchers are redeemed by users.

Background of the invention

【0002】 In view of marketing, marketers make a lot of efforts to advertise advertisements for a specific brand and trademark shown therein and to design various products using the brand and trademark shown in the advertisements. However, for marketers who advertise a variety of advertisements in various platforms, such as paper, posters, commercial films, and social websites, when the sale for any of various products is increased, reduced, or remains constant, they do not know by which platform or which type of advertisement the marketing advantage is brought. Moreover, it would not know from which channel, such as from which websites, platforms or posters and so on, the users obtain the vouchers, and from which store the vouchers are redeemed by the users. Moreover, the marketing information, such as the advertisements mentioned above, is not directly related to the vouchers, which causes industries of public relations, marketing and advertising to spend a lot of extra expense over years.

【0003】 In addition, the obtainment of vouchers and the viewing of marketing information do not directly correlate to each other. For example, click-through rates of advertisements for videos and photos that are currently broadcast on social websites and social film websites, cannot effectively reflect the actual purchase behavior of the users since the click-through rate can be artificially falsified. In a word, the click-through rates cannot effectively reflect the actual behavior of the users.

【0004】 In addition, as various social websites are continuously developed, the role of marketer changes from being a traditionally advertising producer to participator directly involved in the flow of marketing information. The marketers need to use data analysis to track customers' behavior, develop reasonable marketing strategies, and instantly direct marketing position for their advertisements. Therefore, conventional paper and electronic vouchers are clearly unable to keep up with these new trends.

【0005】 Various electronic vouchers have been used on various online platforms in present time. However, the process of redeeming the vouchers produces a difference between the amount corresponding to the goods or services and the face value of the voucher. Moreover, as a result that various issuers of these vouchers are different and each user uses different payment methods to make the difference payment, it will lead to the lack of an effective mechanism to manage and implement the payment of the face value of the voucher and the payment of the residual amount. Moreover, for marketers, the inability to integrate the payment of the voucher face value and the payment of the residual amount will also lead to some technical problems of being unable to effectively calculate the actual purchasing behavior of users.

【0006】 Moreover, for the issuers, if more and more vouchers are issued, it would be necessary to pay a large amount of money in advance and would take a risk whether the vouchers would be redeemed. Even if payments described above are accounted regularly, when there are more and more different vouchers corresponding to different kinds of products, and there are more and more vouchers redeemed gradually in one month, the issuers and the sellers would require much labor and time to deal with accounting matters, and there is no guarantee that they will not make any mistakes. Furthermore, if there are some specific conditions to meet in use for vouchers, such as the condition of certain expiration dates, specific memberships, or certain minimum number of products required to be purchased, it would take a lot of time and labor for sellers, merchants or issuers to process verification. For example, the conventional electronic vouchers are usually in the form of serial numbers. Such arrangement can only obtain the record of the time when users redeem the conventional electronic vouchers. However, the issuers do not know any other details, such as from which channel the users obtain the conventional electronic vouchers, by which motive the users are motivated to redeem these vouchers for products or services and so on, for example, from which online advertisement, poster leaflet/flyer

or other situation, such as introduction of friends or parents and so on.

【0007】 More specifically, existing inventions such as Chinese Patent Application No. 109146555A, Taiwanese Patent Applications No. I622948 and I691922, may have disclosed methods for securely redeeming electronic vouchers. These systems typically involve the generation of unique IDs, the use of barcodes, and third-party verification to ensure the authenticity of the voucher and its subsequent redemption. Another example is disclosed in Taiwanese Patent Application No. I622948, wherein it outlines a control method where a gateway server verifies a purchase request by cross-referencing a unique ID with an online payment record and generates an integrated barcode for redemption. Similarly, Taiwan Patent Applications No. I691922 may have disclosed a priced-certificate ordering system that uses barcodes for secure scanning by service providers.

【0008】 Accordingly, in order to improve above problems, the present invention is developed.

Summary of the invention

【0009】 The object of the present invention is to provide a method and system to integrate voucher issuance and redemption for promoters, which is a transaction mode of B2B (business-to-business/transaction of merchants through various ways of e-commercial mode) in order to solve the technical problem that vouchers in prior art cannot be conveniently redeemed, the use of a voucher cannot effectively reflect users' actual behaviors when users obtain vouchers after viewing marketing information, it is impossible to know through which channel the voucher is obtained by users in prior art and the lack of effective mechanism to manage and implement payment of voucher face value and residual amount and so on. The present invention can produce the technical effect that the integration of payment channels for face value payment and residual amount payment, the amount of money corresponding to the vouchers is disbursed to the merchants' accounts effectively and accurately, and the merchants do not need to pay money in advance. Moreover, it is helpful for marketers to build Big Data information about the behaviors of users, such as which advertisements motivate the users to use certain vouchers, through which channel the vouchers are obtained by users, as a reference for future advertising marketing strategies. In addition, the method and system of the present invention can be effectively integrated with the services provided by existing international credit card organizations to improve the utilization rate of virtual credit card payment by

domestic and overseas merchants, and users are more willing to choose the payment services provided by the method and system of the present invention by combining the checking of credit card information, such as Bin code checking, and the use of near field communication (NFC) tags.

【0010】 In order to fulfill above object, the present invention provides a voucher issuance and redemption method for integrating a plurality of promoters by using an integration platform provided by a processing unit of a voucher issuance and redemption server to perform the following procedures:

a voucher issuance procedure, which includes following steps:

a step A1: using the integration platform to determine total voucher amount of a voucher, where the total voucher amount of the voucher is guaranteed by at least one of funds from the integration platform and the credit facility provided by the integration platform through a third party;

a step A2: determining each promoter's priority weight on the integrated platform, and establishing a mapping relationship with a set of discount items corresponding to each voucher according to each promoter's need, where each discount item corresponds to a product or service of a plurality of merchants;

a step A3: determining a voucher face amount received by each promoter based on the priority weight, and determining the discount face value corresponding to each discount item corresponding to the product or service of each merchant, thereby determining the number of vouchers for the discount items corresponding to products or services of each merchant received by each promoter, so as to generate a plurality of vouchers corresponding to each merchant;

a step A4: allocating the plurality of vouchers to user voucher accounts of users;

a voucher redemption procedure, which includes following steps:

a step B1: selecting, by a user, at least one voucher from his user voucher account through a user interface module, and then transmitting a first message to the voucher issuance and redemption server by the user interface module according to the user's selection;

a step B2: by the voucher issuance and redemption server generating a difference payment order and a voucher face value settlement order based on the first message, wherein the difference payment order is the difference between the amount of the goods or services corresponding to the at least one voucher that the user redeems and the discount amount corresponding to the at least one voucher; wherein the voucher face value settlement order is the discount amount corresponding to at least one voucher corresponding to the goods or services that the user redeems; if the amount of the difference payment order is greater than 0, proceed to a step B3 and a

step B4 respectively; if the amount of the difference payment order is less than or equal to 0, proceed to the step B4;

onding to the goods or services that the user redeems; if the amount of the difference payment order is greater than 0, proceed to a step B3 and a step B4 respectively; if the amount of the difference payment order is less than or equal to 0, proceed to the step B4;

he step B4;

the step B3: using the voucher issuance and redemption server to process the payment from a payer to a payee based on the difference payment order confirmed by at least one of the user interface module and an electronic device located at one merchant; by a verified difference payment module generating the difference payment order confirmed by the voucher issuance and redemption server to initiate a difference payment request;

the step B4 processing payment from an issuer to an acquirer by the voucher issuance and redemption server based on a voucher face value settlement order; generating the voucher payment order that is verified after verifying the identities of the issuer and acquirer by a voucher payment module; generating a voucher payment order confirmed by the voucher redemption server to initiate a voucher payment request by the voucher payment module that is verified.

In an implementation,

【0011】 In an implementation, the step A3 further includes: determining the voucher face value amount obtained by the promoter based on the priority weight, and performing a promoter allocation operation, including: providing a plurality of voucher discount items from the merchants selected according to the promoter's allocation operation, where the promoter's allocation operation is to select merchants and their corresponding plurality of voucher face values corresponding to the discount items corresponding to the product or service of each merchant, and determining the corresponding voucher face values for the selected merchants, thereby determining the number of the vouchers each promoter receives for the discount item corresponding to the product or service of each merchant; issuing a voucher issuance request according to the promoter's allocation operation after receiving the allocation operation from the promoter, so as to generate a plurality of vouchers corresponding to each merchant.

【0012】 each merchant, and determining the corresponding voucher face values for the selected merchants, thereby determining the number of the vouchers each promoter receives for the discount item corresponding to the product or service

of each merchant; issuing a voucher issuance request according to the promoter's allocation operation after receiving the allocation operation from the promoter, so as to generate a plurality of vouchers corresponding to each merchant.

【0013】 In an implementation, the step B3 further includes that the voucher issuance and redemption server processes a payment from the payer to the payee based on the difference payment order confirmed by at least one of the user interface module and the electronic device located at each merchant, wherein the user interface module is mapped to a plurality of payment modules, each of which is connected to at least one of a plurality of payment gateways through an application programming interface (API) communication protocol, and the API communication protocol specifies a plurality of required pieces of information for a payment API from the plurality of payment gateways, and each payment module is selectively activated by the voucher issuance and redemption server according to the user's payment method and each payment module generates the difference payment module that is verified after the identities of the payer and the payee are verified, and the difference payment module that is verified generates the difference payment order confirmed by the voucher issuance and redemption server to initiate the difference payment request.

【0014】 In an implementation, the step B4 further includes that the voucher issuance and redemption server processes payment from the issuer to the acquirer based on a voucher face value settlement order, wherein the use interface module is mapped to the voucher payment modules; the voucher payment module is connected to at least one of a plurality of payment gateways through an application programming interface communication protocol, and the API communication protocol specifies a plurality of required information for the payment API from the plurality of payment gateways including voucher information; the voucher payment module generates the voucher payment order that is verified after verifying the identities of the issuer and the acquirer; the voucher payment module that is verified then generates a voucher payment order confirmed by the voucher issuance and redemption server to initiate the voucher payment request.

【0015】 In an implementation, the step B1 further includes: obtaining the user's region information and NFC (near field communication) tag information at each merchant through the user's mobile device by the voucher issuance and redemption server through Wi-Fi or SIM roaming, where the NFC tag information includes a merchant information and a merchant voucher redemption condition;

generating a set of voucher redemption amount from the user's voucher account based on the user's consumption pattern, the user's region information, the merchant information, and the merchant voucher redemption condition;; and recommending at least one voucher with an effectively higher voucher redemption value; selecting, by the user, at least one voucher from his user voucher account through the user interface module, and then by the user interface module transmitting the first message to the voucher issuance and redemption server according to the user's selection.

【0016】 In an implementation, between the step A4 and the step B1 further including a following step X: determining the consumption pattern of the user through a consumption pattern evaluation module provided in the voucher issuance and redemption server, wherein the consumption pattern evaluation module is trained through at least one algorithm and based on user information and the user information is associated with a user's region information record, a user's consumption/purchasing record or a user's usual payment method record.

【0017】 In an implementation, the step B3 further includes: using the API communication protocol to authenticate at least one token, so as to connect the plurality of payment gateways through the at least one token and allow activating the payment gateways of the difference payment order.

【0018】 In an implementation, the step B4 further includes: using the voucher issuance and redemption server to verify whether the voucher information is valid, wherein if the voucher information is valid, the voucher transaction information is converted into payment information including the corresponding promoter's virtual credit card number generated from a primary credit card number; verifying whether the payment information is valid by the acquirer, wherein if the payment information is valid, the amount of the face value corresponding to the at least one voucher is paid to the merchant.

【0019】 In an implementation, the voucher information includes: a promoter identification code, a voucher redemption information and a credit card authorization information converted according to a transaction code through the voucher issuance and redemption server; wherein the voucher redemption information includes voucher verification information and voucher transaction information; wherein the step B4 further includes: using the voucher issuance and redemption server to verify whether the promoter identification code, the voucher redemption information and the credit card authorization information are valid, if the promoter

identification code, the voucher redemption information and the credit card authorization information are valid, and voucher transaction information is converted to payment information that includes the promoter's virtual credit card number generated based on the primary credit card number; by the acquirer verifying whether the payment information is valid, where if the payment information is valid, the amount of the face value payment corresponding to the at least one voucher is paid to the merchant corresponding to the at least one voucher.

【0020】 In an implementation, between the step A4 and the step B1 further includes a following step Y: providing complete information of the credit card to the voucher issuance and redemption server through the user interface module transmitting the complete information of the credit card to an authentication server ; by the voucher issuance and redemption server, and generating n token corresponds to the complete information of the credit card by the authentication server and a part of the complete information of the credit card, and storing the token and the part of the complete information of the credit card in a storage database.

【0021】 In an implementation, the step B3 further includes: processing a payment from the payer to the payee based on the difference payment order confirmed by at least one of the user interface module and the electronic device located at each merchant by the voucher issuance and redemption server; wherein the user interface module is mapped to a plurality of payment modules, each of which is connected to at least one of a plurality of credit card payment gateways through an application programming interface (API) communication protocol, and the API communication protocol specifies a plurality of required information for a payment API from the plurality of credit card payment gateways, and verifies the token corresponding to the complete information of the credit card stored in the storage database to connect the plurality of credit card payment gateways, and to activate the plurality of credit card payment gateways, wherein each payment module is activated by the voucher issuance and redemption server according to at least one of the used credit cards selected by the user through the user interface module; each payment module generates the difference payment module that is verified after the identities of the payer and the payee are verified, and the difference payment module that is verified compares the part of the complete information of the credit card in the storage database corresponding to the complete information of the credit card with the complete information of the credit card through the voucher issuance and redemption server; if the part of the complete information of the credit card is valid, and the difference payment module that is verified generates the difference payment order

confirmed by the voucher issuance and redemption server so as to initiate the difference payment request.

【0022】 In an implementation, between the step A4 and the step B1 further includes a following step Z: connecting at least one of the electronic devices located at one merchant and a promoter's electronic device located at the promoter with the voucher issuance and redemption server by using an NFC tag; using the voucher issuance and redemption server to match a plurality of virtual credit card numbers generated by the primary credit card number with each promoter; using the voucher issuance and redemption server to confirm whether the voucher information of the issued voucher is valid; using the voucher issuance and redemption server to confirm whether the part of the complete information of the credit card corresponding to each promoter is valid; and confirming whether the current face value allocated to each promoter is lower than the initially allocated face value.

【0023】 The present invention further provides a voucher issuance and redemption system for integrating plurality of promoters, including an integration platform provided by a processing unit of a voucher issuance and redemption server that is communicated with an electronic device located at each merchant and a user interface module; wherein the voucher issuance and redemption server includes a plurality of hardware circuits electrically connected with each other, which are configured into a plurality of modules, including:

【0024】 including:

a voucher issuance module, for performing the following procedures: using the integration platform to determine total voucher amount of a voucher, where the total voucher amount of the voucher is guaranteed by at least one of funds from the integration platform and the credit facility provided by the integration platform through a third party; determining each promoter's priority weight on the integrated platform, and establishing a mapping relationship with a set of discount items corresponding to each voucher according to each promoter's need, where each discount item corresponds to a product or service of a plurality of merchants; determining the voucher face amount received by each promoter based on the priority weight, and determining the discount face value corresponding to each discount item corresponding to the product or service of each merchant, thereby determining the number of vouchers for the discount items corresponding to products or services of each merchant received by each promoter, so as to generate a plurality of vouchers corresponding to each merchant; allocating the plurality of vouchers to user voucher

accounts of users;

discount item corresponding to the product or service of each merchant, thereby determining the number of vouchers for the discount items corresponding to products or services of each merchant received by each promoter, so as to generate a plurality of vouchers corresponding to each merchant; allocating the plurality of vouchers to user voucher accounts of users;

s corresponding to each merchant; allocating the plurality of vouchers to user voucher accounts of users;

an order generation module, for generating a difference payment order and a voucher face value settlement order based on the first message generated by the user interface module according to the user's selection; wherein the difference payment order is the difference between the amount of the goods or services corresponding to the at least one voucher that the user redeems and the discount amount corresponding to the at least one voucher; wherein the voucher face value settlement order is the discount amount corresponding to at least one voucher corresponding to the goods or services that the user redeems;

t corresponding to at least one voucher corresponding to the goods or services that the user redeems;

a difference payment module, for processing the payment from a payer to a payee based on the difference payment order confirmed by at least one of the user interface module and an electronic device located at each merchant; by the difference payment module that is verified generating the difference payment order confirmed by the voucher issuance and redemption server to initiate a difference payment request;

a voucher payment module, for processing payment from an issuer to an acquirer based on a voucher face value settlement order; for generating the voucher payment order that is verified after verifying the identities of the issuer and acquirer; and for generating a voucher payment order confirmed by the voucher redemption server to initiate a voucher payment request; wherein the user interface module is connected to the voucher issuance and redemption server, and is mapped to the difference payment module and the voucher payment module.

【0025】 In an implementation, the voucher issuance module further performs following steps: determining the voucher face value amount obtained by the promoter based on the priority weight, and performing a promoter allocation operation, including: providing a plurality of voucher discount items from the merchants selected according to the promoter's allocation operation, where the promoter's allocation operation is to select merchants and their corresponding

plurality of voucher face values corresponding to the discount items corresponding to the product or service of each merchant, and determining the corresponding voucher face values for the selected merchants, thereby determining the number of the vouchers each promoter receives for the discount item corresponding to the product or service of each merchant; issuing a voucher issuance request according to the promoter's allocation operation after receiving the allocation operation from the promoter, so as to generate a plurality of vouchers corresponding to each merchant.

【0026】 In an implementation, the voucher issuance and redemption server further includes:

a communication module, for obtaining the user's region information and NFC tag information at each merchant through the user's mobile device by the voucher issuance and redemption server through Wi-Fi or SIM roaming, where the NFC tag information includes a merchant information and a merchant voucher redemption condition;

a voucher recommendation module, for generating a set of voucher redemption amount from the user's voucher account based on the user's consumption pattern, the user's region information, the merchant information, and the merchant voucher redemption condition; and recommending at least one voucher with an effectively higher voucher redemption value;

a consumption pattern assessment module, for determining and tracking the consumption pattern of the user through a consumption pattern evaluation module provided in the voucher issuance and redemption server, wherein the consumption pattern evaluation module is trained through at least one algorithm and based on user information and the user information is associated with a user's region information record, a user's consumption/purchasing record or a user's usual payment method record.

【0027】 In an implementation, the voucher payment module further includes a verification and conversion module, for verifying whether the voucher information is valid, where if the voucher information is valid, the voucher transaction information is converted into payment information including the corresponding promoter's virtual credit card number generated from a primary credit card number; verifying whether the payment information is valid by the acquirer, wherein if the payment information is valid, the amount of the face value corresponding to the at

least one voucher is paid to the merchant.

【0028】 In an implementation, the voucher information includes: a promoter identification code, a voucher redemption information and a credit card authorization information converted according to a transaction code through the voucher issuance and redemption server; wherein the voucher redemption information includes voucher verification information and voucher transaction information; wherein the voucher payment module further includes a verification and conversion module, for verifying whether the promoter identification code, the voucher redemption information and the credit card authorization information are valid, where if the promoter identification code, the voucher redemption information and the credit card authorization information are valid, and voucher transaction information is converted to payment information that includes the promoter's virtual credit card number generated based on the primary credit card number; wherein by the acquirer verifying whether the payment information is valid, where if the payment information is valid, the amount of the face value payment corresponding to the at least one voucher is paid to the merchant corresponding to the at least one voucher.

【0029】 In an implementation, further including an authentication server connected with the voucher issuance and redemption server, wherein the authentication server is used for receiving complete information of the credit card from the voucher issuance and redemption server through the user interface module; and for generating an token corresponding to the complete information of the credit card and a part of the complete information of the credit card, and storing the token and the part of the complete information of the credit card in a storage database.

【0030】 In an implementation, the difference payment module further processes a payment from the payer to the payee based on the difference payment order confirmed by at least one of the user interface module and the electronic device located at each merchant; wherein the user interface module is mapped to a plurality of payment modules, each of which is connected to at least one of a plurality of credit card payment gateways through an application programming interface (API) communication protocol, and the API communication protocol specifies a plurality of required information for a payment API from the plurality of credit card payment gateways, and verifies the token corresponding to the complete information of the credit card stored in the storage database to connect the plurality of credit card payment gateways, and to activate the plurality of credit card payment gateways, wherein each payment module is activated by the voucher issuance and redemption

server according to at least one of the used credit cards selected by the user through the user interface module; each payment module generates the difference payment module that is verified after the identities of the payer and the payee are verified, and the difference payment module that is verified compares the part of the complete information of the credit card in the storage database corresponding to the complete information of the credit card with the complete information of the credit card through the voucher issuance and redemption server; if the part of the complete information of the credit card is valid, then the difference payment module that is verified generates the difference payment order confirmed by the voucher issuance and redemption server so as to initiate the difference payment request.

【0031】 In an implementation, the communication module is further used to connect at least one of the electronic devices located at one merchant and a promoter's electronic device located at the promoter with the voucher issuance and redemption server by using an NFC tag; wherein the verification and conversion module is further used to match the plurality of virtual credit card numbers generated by the primary credit card number with each promoter, and to confirm whether the voucher information of the issued voucher is valid, and to confirm whether the part of the complete information of the credit card corresponding to each promoter is valid; wherein the voucher issuance module is further used to confirm whether the current face value allocated to each promoter is lower than the initially allocated face value.

【0032】 In an implementation, a difference payment module is further used to process a payment from the payer to the payee based on the difference payment order confirmed by at least one of the user interface module and the electronic device located at each merchant if the amount of the difference payment order is greater than 0, wherein the user interface module is mapped to a plurality of payment modules, each of which is connected to at least one of a plurality of payment gateways through an application programming interface (API) communication protocol, and the API communication protocol specifies a plurality of required pieces of information for a payment API from the plurality of payment gateways, and each payment module is selectively activated by the voucher issuance and redemption server according to the user's payment method and each payment module generates the difference payment module that is verified after the identities of the payer and the payee are verified, and the difference payment module that is verified generates the difference payment order to initiate the difference payment request.

【0033】 In an implementation, the voucher payment module is further

used to process payment from the issuer to the acquirer based on a voucher face value settlement order if the amount of the difference payment order is less than or equal to 0, wherein the use interface module is mapped to the voucher payment module; the voucher payment module is connected to at least one of a plurality of payment gateways through an application programming interface (API) communication protocol, and the API communication protocol specifies a plurality of required information for the payment API from the plurality of payment gateways including voucher information; the voucher payment module generates that voucher payment order is verified after verifying the identities of the issuer and the acquirer; the voucher payment module that is verified then generates a voucher payment order to initiate the voucher payment request.

Brief description of drawings

【0034】 FIG. 1A is a schematic diagram of an embodiment of a system to integrate voucher issuance and redemption for promoters according to the present invention.

【0035】 FIG. 1B and FIG. 1C are schematic diagrams of embodiments of the system to integrate voucher issuance and redemption for promoters according to the present invention.

【0036】 FIG. 2A and FIG. 2B are flow diagrams of an embodiment of a method o to integrate voucher issuance and redemption for promoters according to the present invention.

【0037】 FIG. 3A to FIG. 3C are schematic diagrams of another embodiment of the system to integrate voucher issuance and redemption for promoters according to the present invention.

【0038】 FIG. 4 is a schematic diagram of another embodiment of the system to integrate voucher issuance and redemption for promoters according to the present invention.

【0039】 FIG. 5 is a schematic diagram showing the operation mode of the method and the system to integrate voucher issuance and redemption for promoters according to the present invention.

【0040】 The present invention will be understood more fully by reference

to the detailed description of the drawings and the preferred embodiments below.

Detailed Descriptions of Preferred Embodiments

【0041】 Referring to Fig. 2A to 2B, the present invention provides a voucher issuance and redemption method for integrating a plurality of promoters by using an integration platform I provided by a processing unit 11 of a voucher issuance and redemption server 1 to perform the following procedures:

a voucher issuance procedure, which includes following steps:

a step A1: using the integration platform to determine total voucher amount of a voucher, where the total voucher amount of the voucher is guaranteed by at least one of funds from the integration platform and the credit facility provided by the integration platform through a third party;

a step A2: determining each promoter's priority weight on the integrated platform, and establishing a mapping relationship with a set of discount items corresponding to each voucher according to each promoter's need, where each discount item corresponds to a product or service of a plurality of merchants;

a step A3: determining a voucher face amount received by each promoter based on the priority weight, and determining the discount face value corresponding to each discount item corresponding to the product or service of each merchant, thereby determining the number of vouchers for the discount items corresponding to products or services of each merchant received by each promoter, so as to generate a plurality of vouchers corresponding to each merchant;

a step A4: allocating the plurality of vouchers to user voucher accounts of users;

a voucher redemption procedure, which includes following steps:

a step B1: selecting, by a user, at least one voucher from his user voucher account through a user interface module, and then transmitting a first message to the voucher issuance and redemption server by the user interface module according to the user's selection;

a step B2: generating a difference payment order and a voucher face value settlement order by the voucher issuance and redemption server based on the first message, wherein the difference payment order is the difference between the goods or services corresponding to the at least one voucher that the user redeems the discount amount corresponding to the at least one voucher; wherein the voucher face value settlement order is the discount amount corresponding to at least one voucher corresponding to the goods or services that the user redeems; if the amount of the difference payment order is greater than 0, proceed to a step B3 and a step B4 respectively; if the amount of the difference payment order is less than or equal to 0, proceed to the step B4;

respectively; if the amount of the difference payment order is less than or equal to 0, proceed to the step B4;

the step B3: using the voucher issuance and redemption server to process the payment from a payer to a payee based on the difference payment order confirmed by at least one of the user interface module and an electronic device located at each merchant; by a verified difference payment module generating the difference payment order confirmed by the voucher issuance and redemption server to initiate a difference payment request;

a difference payment request;

the step B4 processing payment from an issuer to an acquirer by the voucher issuance and redemption server based on a voucher face value settlement order; by the voucher payment module generating a verified voucher payment order after verifying the identities of the issuer and acquirer; by a verified voucher payment module generating a voucher payment order confirmed by the voucher redemption server to initiate a voucher payment request.

【0042】 The present invention further provides a voucher issuance and redemption system. In one embodiment, the system includes a voucher issuance and redemption server 1 located at the administrator's end, which is connected in communication with at least one of a merchant's electronic device 4 located at one merchant side, a promoter electronic device 6 provided on one promoter side and the user interface module 5 of the mobile device provided one user side. The processing unit 11 of the present invention is an integrated circuit or a microprocessor. The storage unit 12 is a data storage device that stores a plurality of program codes 121, and program codes 121 include but are not limited to a plurality of the above modules, and the program codes 121 are read and executed by the processing unit 11. In other embodiments, the storage unit 12 is a flash memory, a read-only memory, a random access memory, a hard disk, a non-volatile storage unit, an optical information storage device, etc.

【0043】 The voucher issuance and redemption server 1 includes a plurality of hardware circuits electrically connected with each other, which are configured into a plurality of modules, including: a voucher issuance module 1210, a communication module 1211, a voucher recommendation module 1212, an order generation module 1213, a difference payment module 1214 and a voucher payment module 1215, a consumption pattern evaluation module 1216, a verification and conversion module 1217, a discount rule acquisition module 1218, and a user interface (not shown). In one embodiment, a voucher issuance module 1210 is used for performing the

following procedures: using the integration platform I to determine total voucher amount of a voucher, where the total voucher amount of the voucher is guaranteed by at least one of funds from the integration platform I and the credit facility provided by the integration platform I through a third party; determining each promoter's priority weight on the integrated platform I, and establishing a mapping relationship with a set of discount items corresponding to each voucher according to each promoter's need, where each discount item corresponds to a product or service of a plurality of merchants; determining the voucher face amount received by each promoter based on the priority weight, and determining the discount face value corresponding to each discount item corresponding to the product or service of each merchant, thereby determining the number of vouchers for the discount items corresponding to products or services of each merchant received by each promoter, so as to generate a plurality of vouchers corresponding to each merchant; allocating the plurality of vouchers to user voucher accounts of users.

【0044】 Moreover, the order generation module 1213 is used for generating a difference payment order and a voucher face value settlement order based on the first message generated by the user interface module 5 according to the user's selection; wherein the difference payment order is the difference equal to that the amount of the goods or services corresponding to the at least one voucher that the user redeems minus the discount amount corresponding to the at least one voucher; wherein the voucher face value settlement order is the discount amount corresponding to at least one voucher corresponding to the goods or services that the user redeems. Moreover, in another embodiment, the difference payment module 1214 is further used to process a payment from the payer to the payee based on the difference payment order confirmed by at least one of the user interface module 5 and the electronic device 4 located at each merchant if the amount of the difference payment order is greater than 0, wherein the user interface module 5 is mapped to a plurality of payment modules, each of which is connected to at least one of a plurality of payment gateways through an application programming interface (API) communication protocol, and the API communication protocol specifies a plurality of required pieces of information for a payment API from the plurality of payment gateways, and each payment module is selectively activated by the voucher issuance and redemption server according to the user's payment method and each payment module generates a verified difference payment module after the identities of the payer and the payee are verified, and the verified difference payment module generates the difference payment order confirmed by the voucher issuance and redemption server 1 to initiate the difference payment request. In another embodiment, the voucher payment module

1215 is further used to process payment from the issuer to the acquirer based on a voucher face value settlement order if the amount of the difference payment order is less than or equal to 0, wherein the use interface module 5 is mapped to the voucher payment module 1215; the voucher payment module 1215 is connected to at least one of a plurality of payment gateways through an application programming interface communication protocol, and the API communication protocol specifies a plurality of required information for the payment API from the plurality of payment gateways including voucher information; the voucher payment module 1215 generates a verified voucher payment order after verifying the identities of the issuer and the acquirer; the verified voucher payment module 1215 then generates a voucher payment order confirmed by the voucher issuance and redemption server 1 to initiate the voucher payment request. Moreover, the user interface module 5 is connected to the voucher issuance and redemption server, and is mapped to the difference payment module and the voucher payment module 1215, and the user interface module 5 executes and activates the payment steps related to the difference payment order or the voucher payment order based on a difference payment order or a voucher payment order. In other embodiments of the present invention, the user interface module 5 may be constructed from gain sets, packages or nearby components related to multiple payment gateways.

【0045】 The electronic devices mentioned in the present invention include but are not limited to: personal computers, notebook computers, smart phones, tablet computers, POS machines and any electronic devices that can access the Internet.

【0046】 The method and system of the present invention are described in detail below. Refer to FIG. 1A, FIG. 1B and FIG. 1C. First, a processing unit 11 of the integrated platform I provided in the voucher issuance and redemption server 1 performs the steps claimed in the present invention. The voucher issuance procedure includes steps A1 to A4. In the step A1, the total voucher face amount of the voucher is determined by the integration platform I established by a sponsor, where the total face amount of the voucher is at least one of the funds from the integration platform I and the credit facility provided by the integration platform I through a third party as a guarantee. It is considered that some limited company, company limited or merchants with marketing needs may have insufficient funds or even have no cash flow during operations, a sponsor with a good credit facility and goodwill is able to provide and determine the total face amount of vouchers, and the total amount of the voucher face value is from at least one of the sponsor's own funds and the credit facility provided by the sponsor through a third party, such as a bank or other financial institutions.

Then, in the step A2, a priority weight of each promoter for the integrated platform is determined. For example, a priority weight set is generated based on the contribution and importance of each promoter to the sponsor, and the mapping relationship between the set of discount items corresponding to the voucher and each sponsor is established based on the needs of each promoter. Each discount item corresponds to a product or service of one merchant. In one embodiment, such contribution and importance can be indexed and digitized and may cover many aspects, such as the promoter's own gross profit margin, the value of the company corresponding to the promoter, and so on. In addition, the priority weight set is not a fixed ranking, but is based on different scenarios. For example, when revenue is the main quantitative indicator for ranking, gross profit margin or media exposure is the main indicator for ranking. In other words, the set of priority weights also can be changed according to the different conditions described above. Furthermore, a promoter of the present invention is defined as the marketing department of a merchant, an employee of marketer or a company or an organization with promotion or marketing needs, such as the marketing department of an insurance company, airline, automobile manufacturer, and so on. In other embodiments, the promoters can also be marketers who specialize in marketing for different customers. In other words, as long as one company account has good credit facility and loyalty, it can manage the issuance and redemption of vouchers for multiple different promoters. Furthermore, a mapping relationship is established between the set of discount items corresponding to each voucher and each promoter according to needs of each promoter, and each discount item corresponds to the product or service of each merchant. For example, if an insurance company needs to market its services through food-related merchant channels, it can cooperate with well-known restaurants such as McDonald's, MOS Burger, and KFC to issue vouchers and their corresponding discount items related to the above restaurants, for example, discounts on certain products like free French fries, free hamburger with specific drinks. Moreover, in the step 3, it is required to determine the voucher face amount received by each promoter based on the priority weight, and determine the discount face value corresponding to each discount item corresponding to the product or service of each merchant. For example, if the total face value of the discount is NT\$1 million, the total face value needs to be allocated to promoters, such as the insurance companies, airlines, automobile manufacturers, etc., in a way as follows: NT\$300,000, NT\$300,000, NT\$300,000, and the remaining NT\$100,000 is able to be left to other promoters with less quota demands. For example, taking the insurance company as an example, the system of the present invention can establish a mapping relationship with a certain movie theater's products such as movie ticket vouchers; establish a mapping relationship with a certain hospital's health examination service

vouchers; and establish a mapping relationship with a certain steakhouse's products vouchers, thereby determining each discount item corresponding to the product or service of each merchant. For example, the movie ticket voucher has a face value of NT\$200, the health checkup service voucher has a voucher value of 20% discount (NT\$2,000), and the steakhouse product voucher has a face value of NT\$400. Moreover, in the step A3, it is required to determine the voucher face amount received by each promoter based on the priority weight, and determine the discount face value corresponding to each discount item corresponding to the product or service of each merchant, thereby determining the number of vouchers for the discount items corresponding to the products or services of each merchant received by each promoter, so as to generate a plurality of vouchers corresponding to each merchant. As can be seen from above content, the face value corresponding to each discount item of each promoter have been determined, and the number of vouchers received by each promoter for each discount item of each merchant's product or service can also be determined. It should be noted that in the step A3 of the method of the present invention, the face values corresponding to each discount item corresponding to each merchant's product or service can be determined in advance by each merchant before being submitted or transmitted to the integration platform I. In this example, the face values corresponding to each discount item corresponding to the product or service of each merchant can be determined by each promoter; in other embodiments, the face value corresponding to each discount item corresponding to the product or service of each merchant can be decided by the administrator or sponsor of the integrated platform, which is also within the scope of the present invention. In another embodiment, in the step A4, the system administrator or sponsor of the integration platform I may also directly allocate the vouchers allocated by each promoter to the user voucher account of each user. Further, in the step A4, in one embodiment, the vouchers allocated by each promoter are stored in the promoter's voucher account of each promoter, and the vouchers allocated by each promoter are allocated to the user voucher account of each user. It should be noted that in other embodiments, the system of the present invention can also open all authorities, allowing each promoter to distribute the allocated vouchers according to the promoter's marketing considerations for users, and allocate vouchers to each user's voucher account. Or, only the authorities of certain promoters are open, so that some promoters can freely decide how to allocate the vouchers they receive, while other promoters' authority are controlled by the system administrator of the integrated platform I. For example, the system of the present invention is able to automatically allocate the vouchers assigned based on the rules set advanced by each promoter to the user voucher account of each user in accordance with the prior agreement with the promoters. Or, the system of the

present invention is able to automatically allocate the vouchers to the user voucher account of each user in full accordance with the rules set by the system administrator of the integration platform I. Various combinations of the above embodiments are all within the scope of the present invention.

【0047】 Furthermore, in another embodiment, referring to FIG. 2A and FIG. 2B, the voucher issuance procedure includes step A3. This embodiment is different from the previous embodiment in that: in this step A3, it is required to determine the voucher face value amount obtained by the promoter based on the priority weight, and perform a promoter allocation operation in the electronic device 6, including: provide plurality of voucher discount items for the selected merchants of the promoter's allocation operation. It should be noted that in other embodiments, as mentioned above, such voucher discount items may be provided by various merchants, provided by various promoters, or provided by the administrator of the integrated platform I, all of which are within the scope of the present invention. The promoter's allocation operation is to select the selected merchants and their corresponding plurality of voucher face values corresponding to the discount items corresponding to the product or service of each merchant, and determine the corresponding voucher face values for the selected merchants. Taking the above example as an example, the face value of the vouchers selected from the steakhouse for steak is NT\$400, for fish steak is NT\$300, for chicken steak is NT\$200, and so on, thereby determining the face value of the voucher the promoter receives for the discount item corresponding to the product or service of each merchant. Then, a voucher issuance request is sent according to the promoter's allocation operation after receiving the allocation operation from the promoter, so as to generate a plurality of vouchers corresponding to each merchant, and thus the total voucher denomination allocated by each promoter is within the limit range set by the integration platform I established by the sponsor. Furthermore, after the allocation operation of the promoter is received, since the number of each voucher has been determined, a voucher issuance request is issued according to the allocation operation of the promoter to generate a plurality of vouchers corresponding to each merchant.

【0048】 Moreover, the voucher redemption procedure includes the steps B1 to B4. The step B1 includes: selecting, by the user at least one voucher from his user voucher account through a user interface module, and then transmitting a first message to the voucher issuance and redemption server by the user interface module according to the user's selection. In some embodiments, users may not redeem the vouchers recommended by the system of the present invention, so the present invention does not limit the users to use the vouchers recommended by the present

invention. The step B2 includes: by the voucher issuance and redemption server 1 generating a difference payment order and a voucher face value settlement order based on the first message, wherein the difference payment order is the difference between the amount of the goods or services corresponding to the at least one voucher that the user redeems and the discount amount corresponding to the at least one voucher; wherein the voucher face value settlement order is the discount amount corresponding to at least one voucher corresponding to the goods or services that the user redeems; if the amount of the difference payment order is greater than 0, proceed to a step B3 and a step B4 respectively; if the amount of the difference payment order is less than or equal to 0, proceed to the step B4. Refer to Fig. 3A, The amount of the product or service of the corresponding merchant that the user redeems is NT300, and the face value of the voucher is NT50. The difference equals that the amount (NT300) of the product or service of the corresponding merchant that the user redeem minus the face value of the voucher (NT250). It can be seen that according to the rules described above, if the amount of this difference payment order is greater than 0, it needs to perform the following steps B3 and B4 respectively. If the face value of the voucher can exactly cover the amount of the product or service of the corresponding merchant that the user redeems, it only needs to perform the following step B4.

【0049】 Moreover, the step B3 includes: using the voucher issuance and redemption server 1 to process the payment from a payer to a payee based on the difference payment order confirmed by at least one of the user interface module 5 and an electronic device 4 located at one merchant; by a verified difference payment module 1214 generating the difference payment order confirmed by the voucher issuance and redemption server 1 to initiate the difference payment request;

【0050】 Moreover, the step B4 includes: by the voucher issuance and redemption server 1 processing payment from an issuer to an acquirer based on a voucher face value settlement order; by a voucher payment module 1215 generating a verified voucher payment order after verifying the identities of the issuer and acquirer; by the verified voucher payment module 1215 generating a voucher payment order to initiate the voucher payment request.

【0051】 In other embodiments of the present invention, in the steps B3 and B4, the difference payment module 1214 and the voucher payment module 1215 of the voucher issuance and redemption server 1 may initiate multi-factor authentication, such as two-factor authentication, etc. when initiating a difference

payment request or a voucher payment request.

【0052】 Moreover, In other embodiments, the step B1 further includes: obtaining the user's region information and NFC (near field communication) tag information at each merchant through the user's mobile device by the voucher issuance and redemption server through Wi-Fi or SIM roaming, where the NFC tag information includes a merchant information and a merchant voucher redemption condition, for example, the time range for voucher redemption, products, services or other special conditions, etc. Due to the personal information laws of various countries, it is not necessarily possible to obtain the real-time location of each user in various countries. Therefore, the present invention obtains the location range of each user through a Wi-Fi transmitter or a SIM roaming receiving device. Near Field Communication (NFC) is a communication protocol that allows any two electronic devices, such as smartphones, to communicate within a distance. The method and system of the present invention use a near field communication mechanism to allow each user, each merchant, and each promoter to connect to the voucher issuance and redemption server 1 of the present invention. Moreover, generating a set of voucher redemption amount from the user's voucher account based on the user's consumption pattern, the user's region information, the merchant information, and the merchant voucher redemption condition; and recommending at least one voucher with an effectively higher voucher redemption value. For example, if there are three merchants near one user's location, and some vouchers corresponding to them can be effectively redeemed by the user. The system of the present invention is able to collect the discount amounts of these three merchants, whichever is higher (or one or some of the higher ones are within the scope of the present invention), and the corresponding voucher is recommended to the user. Then, the user selects at least one voucher from his user voucher account through the user interface module 5, and then by the user interface module 5 transmitting the first message to the voucher issuance and redemption server 1 according to the user's selection. In other embodiment, the voucher issuance and redemption server 1 further includes a consumption pattern evaluation module 1216, for determining the consumption pattern of the user, and the consumption pattern evaluation module 1216 is trained through at least one algorithm and based on user information and the user information is associated with a user's location information record, a user's consumption/purchasing record or an user's usual payment method record. That is to say, the consumption pattern assessment module 1216 trains the following variables through at least one algorithm: each user's regional information record, user's consumption merchant record, or the user's usually used payment method. For example, each current payment methods, such as

credit card also have various discounts or bonus point discounts, etc., such that the system of the present invention can recommend the optimal vouchers to each user. Furthermore, in another embodiment, the variables described above may also include: for the promoter, for example, the asset size of each promoter, the risk tolerance of each promoter, and the credit record of each promoter; for each user, the recommendation/recommended records of each user, the consumption preferences of each user, etc., thereby optimizing the ability of the system of the present invention to recommend the optimal vouchers to each user. Furthermore, in another embodiment, the voucher issuance and redemption server 1 further includes a discount rule acquisition module 1218, which acquires the redemption conditions of each merchant from each merchant according to a specified time interval or an acquisition instruction. The merchant's redemption conditions include: for example, credit card discount rules and the discount rules of the shopping website corresponding to some merchant, and the specified time interval is to automatically update the voucher discount rules through the API protocol, for example, every week, monthly, daily, etc.

【0053】 Moreover, in other embodiment, the voucher issuance and redemption server 1 further includes a communication module 1211, for obtaining the user's region information and NFC tag information at each merchant through the user's mobile device by the voucher issuance and redemption server through Wi-Fi or SIM roaming, where the NFC tag information includes a merchant information and a merchant voucher redemption condition. Moreover, in other embodiment, the voucher issuance and redemption server 1 further includes a voucher recommendation module 1212, for generating a set of voucher redemption amount from the user's voucher account based on the user's consumption pattern, the user's region information, the merchant information, and the merchant voucher redemption condition; and recommending at least one voucher with an effectively higher voucher redemption value.

【0054】 Moreover, in other embodiment, the step B3 further includes: the difference payment module 1214 is used to process the payment from a payer to a payee based on the difference payment order confirmed by at least one of the user interface module 5 and an electronic device 4 located at each merchant. The merchant of the present invention, whether it is a physical store or an online store, in some embodiments, the physical store can have an acquirer device 4, such as a credit card mobile acquiring device (mPOS); in some embodiments, if some merchants belong to non-physical stores, such as online stores, the electronic devices of such merchants are connected in communication with the system of the present invention. The user

interface module 5 is mapped to a plurality of payment modules, each of which is connected to at least one of a plurality of payment gateways through an application programming interface communication protocol. In some embodiments of the present invention, the payment module of the present invention may include but is not limited to the following various transaction gateways: domestic/international transfer transaction payment gateways, payment gateways of various existing mobile payment platforms gateways (e.g., contactless payment gateways, scan-and-pay gateways, electronic payment gateways, electronic ticket gateways, third-party payment gateways), financial card payment gateways, digital currency transaction gateways, crypto-currency payment gateways etc., are all within the scope of the present invention. Furthermore, the aforementioned payment gateway is associated with various existing financial paths, such as bank accounts, credit cards, electronic wallets, bonus points on e-commerce platforms, digital authentication, etc., which are all within the scope of protection of the present invention. The API communication protocol specifies a plurality of required pieces of information for a payment API from the plurality of payment gateways, and each payment module is selectively activated by the voucher issuance and redemption server 1 according to the user's payment method, for example, The payment methods corresponding to the various transaction gateways mentioned above and each payment module generates a verified difference payment module after the identities of the payer and the payee are verified, and the verified difference payment module generates the difference payment order confirmed by the voucher issuance and redemption server to initiate the difference payment request. It can be seen from this that the acquiring organization, acquirer, payee, issuer and payer of the present invention may include various acquiring organizations, acquirers, payees, issuer and payers corresponding to the aforementioned payment gateways, all of which are included in the scope of the present invention. In some embodiments of the present invention, the system administrator of the system of the present invention may also refer to the order history records, face values, exchange rates, payment waiting times, and secure transaction records corresponding to these payment gateways, the identity of the acquiring organization, the identity of the acquirer, the identity of the payee, the identity of the issuer and the identity of the payer according to circumstances or needs, so as to designate or arrange a suitable payment gateway.

【0055】 Moreover, in other embodiment, the step B3 further includes: using the API communication protocol to authenticate at least one token, so as to connect the plurality of payment gateways through the at least one token and allow activating the payment gateways of the difference payment order. The present

invention uses tokens to activate various payment gateways in the aforementioned steps.

【0056】 Moreover, in other embodiment, refer to Figs. 3A to 3C, the step B4 further includes that the voucher payment module 1215 of the voucher issuance and redemption server 1 processes payment from the issuer to the acquirer based on a voucher face value settlement order. The use interface module 5 is mapped to the voucher payment module 1215. The voucher payment module 1215 is connected to at least one of a plurality of payment gateways through an application programming interface communication protocol, and the API communication protocol specifies a plurality of required information for the payment API from the plurality of payment gateways including voucher information; the voucher payment module 1215 generates a verified voucher payment order after verifying the identities of the issuer and the acquirer; the verified voucher payment module then generates a voucher payment order confirmed by the voucher issuance and redemption server 1 to initiate the voucher payment request.

【0057】 Moreover, in other embodiment, the step B4 further includes: using the verification and conversion module 1217 of the voucher issuance and redemption server 1 to verify whether the voucher information is valid. If the voucher information is valid, the voucher transaction information is converted into payment information including the corresponding promoter's virtual credit card number (VCN) generated from a primary credit card number; and verifying whether the payment information is valid by the acquirer, wherein if the payment information is valid, the amount of the face value corresponding to the at least one voucher is paid to the merchant.

【0058】 Moreover, in other embodiment, the voucher information includes: a promoter identification code (usually defined as MID/merchant identification code in this technical field, this invention is defined as promoter identification code), voucher redemption information and a credit card authorization information converted according to a transaction code through the voucher issuance and redemption server. wherein the voucher redemption information includes voucher information and voucher transaction information. In some embodiment of the present invention, the voucher information includes: a sale promotion identification code (sales promotion ID), a sale promotion name, a voucher name, a voucher identification code, a voucher use/update date, a voucher activation condition, a user identification code (user ID, E-mail, mobile phone number), key value pairing,

discount contents, merchant/ promoter / marketer identification code (MID/PID/MID), redeemed-store identification code (store ID), products/services identification code and its maximum/minimum redeeming number and so on. This kind of voucher source information in the voucher information is used to record the place where the users obtain vouchers, and the voucher source information is information corresponding to the device on which the voucher is displayed, for example, the paper poster or the electronic billboard, the non-electronic billboard or the platform, so that the system of the present invention may obtain detail information from all of the steps from marketing, redeeming to disbursing, for example, it would be able to know the information through which advertisement users get vouchers, by whom vouchers are used, by whom vouchers are recommended, in which store vouchers are redeemed, which kind of products corresponding to the vouchers. In other embodiment, the voucher transaction information includes the amount of money to be paid to the merchant based on the discount ratio or the discount amount, or the current rate of exchange and so on, that is, the actual face value amount of money that users need to pay corresponding to the voucher. In other embodiment, the step B4 further includes: using the verification and conversion module 1217 of the voucher issuance and redemption server 1 to verify whether the promoter identification code, the voucher redemption information and the credit card authorization information are valid, if the promoter identification code, the voucher redemption information and the credit card authorization information are valid, a specific virtual credit card number is generated based on the primary credit card number, and voucher transaction information is converted to payment information that includes the promoter's virtual credit card number based on the primary credit card number (For example, the primary credit card number corresponds to the physical credit card of the sponsor of the integrated platform I); by the acquirer verifying whether the payment information is valid, where if the payment information is valid, the amount of the face value payment corresponding to the at least one voucher is paid to the merchant corresponding to the at least one voucher. Because the present invention takes into account the issue of security, the voucher of the present invention itself includes only the promoter identification code. Of course, in another embodiment, the information described above can also be included in the voucher base on the system performance, which is within the claim scope of the present invention. Then, the verification and conversion module 1217 of the voucher issuance and redemption server 1 verifies whether the promoter identification code, the voucher redemption information and the credit card authorization information are valid, and it includes verifying the information described above, such as whether vouchers are expired, activated, redeemed, or being consistent with the original setting, which is not described herein.

In another embodiment, it is also possible to verify the promoter identification code with the original setting (preset information) in the voucher issuance and redemption server 1, so as to improve or arrange system performance. In other embodiment, In the step B4, in addition to verify whether the promoter identification code, the voucher redemption information and the credit card authorization information are valid, the verification and conversion module 1217 of the voucher issuance and redemption server 1 also may verify other information, that is, verifying whether all the verification information mentioned above is consistent with the preset information of the present invention. For example, the user redeems a voucher in its corresponding store, which means that the voucher can be redeemed successfully, and then the transaction information is transformed into payment information. In some embodiment of the present invention, the payment information includes the specific information including the specific virtual credit card number corresponding to the promoter and the amount of money corresponding to the voucher, and the payment information is transmitted to the acquirer for verification. Therefore, as described above, since the promoter identification code corresponds to each voucher redemption information, it is able to know for promoters through which channel users know sale promotions and in which place users redeem vouchers, for example, from which marketing information users get vouchers, such as the link of a social website or the advertisement in marketing films or figures and so on. Moreover, for example, in which store (restaurant, drugstores, department stores and so on) of which kind of store (brick and mortar, online store) users redeem vouchers. The system of the present invention can effectively record all the details through the marketing medium from the process of acquisition to redemption, and have the marketing information and consumption information connected with each other. Further, if the issuer successfully verifies the above information structure successfully, that is, the transaction or trading is established, the money corresponding to the voucher is disbursed to the merchant's account after several working days, so as to fulfill the technical effect that the amount of money corresponding to the voucher is disbursed to the merchant's account (B2B). In another embodiment, when the user A shares the referral voucher to the user B, the voucher verification information includes information of the user ID (ID) of the shared one (the user B), so as to track the person who recommends the referral voucher and the person who is recommended, the voucher ID of the referral voucher is able to be updated simultaneously. In another embodiment, in order to enhance the overall security of the voucher of the present invention, when the user A shares the referral voucher to the user B, the content of the voucher redemption information, such as the voucher verification information, should be updated together in addition to the voucher identification code, thereby increasing

the overall security of the system and method of the present invention. In other embodiment, the step B4 further includes that if the promoter identification code, the voucher redemption information and the credit card authorization information are valid, and voucher transaction information is converted to payment information that includes the promoter's virtual credit card number generated based on the primary credit card number, and the payment information is transmitted to the acquirer; After that, the acquirer transmits the virtual credit card number and the amount of payment to an authenticator, such as National Credit Card Center, and the authenticator transmits the virtual credit card number to the card issuer for verification, and verifies the corresponding original credit card number (RCN), thereby confirming whether the virtual credit card is correct; where if the payment information is valid, the amount of the face value payment corresponding to the at least one voucher is paid to the merchant corresponding to the at least one voucher.

【0059】 In some embodiments of the present invention, each user and each promoter provide relevant information required by the system of the present invention when registering the system of the present invention for the first time through a single sign-on (SSO) mechanism. For each user and each promoter, it may include relevant information required for identity verification, such as personal identity information and enterprise identity information; for each user, at least the relevant information required for payment by the user, such as , bind the required information for credit cards, payment accounts, and related payment APP information required for various mobile payments, etc.

【0060】 Moreover, in another embodiment, between the step A4 and the step B1 further includes a following step Y. The step Y includes: by providing complete information of the credit card to the voucher issuance and redemption server 1 through the user interface module 5. The complete information of the credit card includes: a user name, a credit card number, expiration date and security code, etc.; by the voucher issuance and redemption server 1 transmitting the complete information of the credit card to an authentication server 3, and by the authentication server 3 generating an token corresponding to the complete information of the credit card and a part of the complete information of the credit card, for example, bank identification code (BIN code), etc., and storing the token and the part of the complete information of the credit card in a storage database 2. Moreover, in other embodiment, by the voucher issuance and redemption server 1 transmitting the complete information of the credit card to the authentication server 3, and by the authentication server 3 generating a token and corresponding code corresponding to the complete information

of the credit card, and storing the token and the corresponding code in a storage database 2. The advantage of this arrangement of the present invention is that there is no need to transmit complete credit card information between different devices, thereby avoiding the risk of leakage of complete credit card information. Moreover, in other embodiment, the step B3 further includes: by the voucher issuance and redemption server 1 processing a payment from the payer to the payee based on the difference payment order confirmed by at least one of the user interface module 5 and the electronic device 4 located at each merchant. The user interface module 5 is mapped to a plurality of payment modules, each of which is connected to at least one of a plurality of credit card payment gateways through an application programming interface (API) communication protocol, and the API communication protocol specifies a plurality of required information for a payment API from the plurality of credit card payment gateways, and verifies the token corresponding to the complete information of the credit card stored in the storage database 2 to connect the plurality of credit card payment gateways, and to activate the plurality of credit card payment gateways, wherein each payment module is activated by the voucher issuance and redemption server 1 according to at least one of the used credit cards selected by the user through the user interface module 5; each payment module generates the difference payment module that is verified after the identities of the payer and the payee are verified, and the difference payment module that is verified compares the part of the complete information of the credit card or the corresponding code in the storage database 2 corresponding to the complete information of the credit card with the complete information of the credit card through the voucher issuance and redemption server 1; that is, in some embodiments, the voucher issuance and redemption server 1 transmits the credit card information and the portion of the complete credit card information or corresponding code corresponding to the complete credit card information in the storage database 2 to the local National Credit Card Center (NCCC); if the part of the complete information of the credit card is valid, and the difference payment module 1214 that is verified generates the difference payment order confirmed by the voucher issuance and redemption server 1 so as to initiate the difference payment request.

【0061】 Moreover, in another embodiment, between the step A4 and the step B1 further includes a following step Z. The step Z includes: connecting at least one of the electronic devices 4 located at one merchant and a promoter's electronic device 6 located at the promoter with the voucher issuance and redemption server 1 by using an NFC tag. Of course, the present invention also includes establishing a connection with the voucher issuance and redemption server 1 through various

existing communication methods. Moreover, using the voucher issuance and redemption server 1 to match a plurality of virtual credit card numbers generated by the primary credit card number with each promoter; using the voucher issuance and redemption server 1 to confirm whether the voucher information of the issued voucher is valid; using the voucher issuance and redemption server 1 to confirm whether the part of the complete information of the credit card corresponding to each promoter is valid; and confirming whether the current face value allocated to each promoter is lower than the initially allocated face value. For example, if the current face value allocated to each promoter is close to or higher than the initially allocated face value, the promoter or system administrator needs to be reminded to adjust the denomination again.

【0062】 Moreover, in another embodiment, between the step A4 and the step B1 further includes a following step Q. The step Q includes: using the voucher issuance and redemption server 1 to match a plurality of virtual credit card numbers generated by the primary credit card number with each promoter; The voucher issuance and redemption server 1 is used to initiate promotional activities corresponding to the specific promoter based on the promoter's budget and the consumption patterns of the target users provided by the consumption pattern evaluation module 1216.

【0063】 In addition, the method and system of the present invention are programmed in a structure that conforms to the RESTful application programming interface/API, and thus the method and system of the present invention can be effectively compatible with various interfaces of most of payment/cash flow systems today. In other words, the present invention can effectively save the cost of construction, maintenance and management for servers necessary for the development of the current program-creating process, and the system of the present invention can be effectively incorporated into the servers of the existing systems of various manufacturers (such as the APP of IOS or Android system).

【0064】 Please refer to FIG. 5. First, the method and system of the present invention can instantly select a suitable merchant to immediately initiate a sale promotion including settings of promotion items, voucher settings of the promotion items and so on according to the budget and the target users' consuming habits. Then, the consumption habit data of the users, such as related data of tracking users' response to certain advertisements, voucher acquisition path and voucher redemption, is obtained by using the cloud voucher-based automatic voucher-disbursing process

(programmed in API structure) to generate, distribute, activate or redeem the voucher of the present invention. Finally, such arrangements of the present invention can provide a lot of marketing data to be analyzed, so as to develop new marketing strategies, to obtain users' overall visions, to promote lifetime value and to enhance deeper marketing insight.

【0065】 Furthermore, the data obtained from the system of the present invention can be used in a descriptive analysis, for example, to view everything that occurs during the steps of marketing to voucher-redeeming process. For example, how often the advertisements are published or how different channels through which affects the number of transactions per user; diagnostic analyses, which is used for marketer to understand the reason why certain commercial events occur, such as the impact of advertisements to sales volume. In terms of customer surveys, the present invention applies conventional market research to the analysis of data generated by the method and system of the present invention, which enables marketers to track not only customer intent but also actual purchase behavior. The method and system of the present invention can help marketers test the needs of specific users and achieve the desired marketing goals by comparing the marketing strategies generated from above data analyses with the actual users' behavior. In terms of artificial intelligence, through all the data collected from the system of the present invention, marketers can make predictions about the development of market for users. In other words, the present invention can use historical data to predict future possible situations. For example, it is able to analyze customers' behavior by using unsupervised machine learning, to predict sales volume or customer lifetime value by using regression models, and to perform product sentiment analysis by using comments and ratings from automated survey system.

【0066】 Accordingly, the present invention has the following advantages:

1. Starting from the setting of sale promotion for vouchers, the present invention can effectively provide different types and contents of vouchers for different merchants to "instantly" initiate sale promotions according to reasonable budget and target users, and amounts of money can be effectively allocated to different merchants (B2B) by corresponding at least one virtual credit cards to different merchants, so that the amounts of money needed to be disbursed to merchants are no longer required to be paid in advance.
2. The VCN-payment solution provided by the present invention can reduce the complexity of related financial law issues, such as financial compliance, and prevents additional waste. It is no longer required for

voucher publisher to pay the money in advance, and the merchant can obtain the payment authorization by the virtual credit card (VCN) set by the present invention immediately after users redeem the voucher and obtain the payment in a few days. The VCN-payment solution of the present invention not only simplifies risk management of prior art, lowers overall costs, but also enhances the management of the entire steps of voucher redemption more effectively.

3. The system of the present invention is programmed in an API programming language. In other words, the system of the present invention can be effectively integrated into most of electronic payment programs or systems today without setting a specific APP server.
4. The system of the present invention can instantly get marketing information and even information of user's behavior via a hybrid cloud and web API. Through the method and system of the present invention, marketers can track all the details of the users' behavior, such as from which channel (through which channel, such as online advertisement, Facebook, magazines, newspaper and so on) vouchers are obtained or in which store or when the vouchers are redeemed.
5. The present invention can provide referral vouchers, which allows users to recommend, or share vouchers related to certain brands or trademarks. The present invention can not only track the person who recommend or share vouchers and the person who is recommended, but also accurately measure CPT (per transaction cost), so as to set the best strategy for certain vouchers, such as personal, public or referral voucher.
6. The method and system of the present invention can effectively track the redemption behavior of users after they view marketing information and obtaining the voucher, so that the marketer can effectively track users' reaction to the marketing information, such as the information that from which channel vouchers are obtained and where or how vouchers are redeemed, to obtain data on users' habits for big data analysis, so as to achieve unpredictable technical effects in developing new marketing strategies, gaining a holistic view of users, promoting lifetime value and enhancing deeper marketing insights.
7. The payment gateway provided by the method and system of the present invention can properly handle the face value payment and difference payment procedures of each promoter, allowing each promoter to focus more on planning the marketing work of the products or services they need to promote, so as to comply with users' preferences and provide the users

with the suitable vouchers. When the users use the voucher provided by the promoter to redeem some products or services of one merchant, the various payment gateways mentioned above promote the users to trust the promoter corresponding to the voucher, thereby encouraging the users to be more loyal to the promoter.

【0067】 The description referred to in the drawings and stated above is only for the preferred embodiments of the present invention. Many equivalent variations and modifications can still be made by those skilled at the field related with the present invention and do not depart from the spirit of the present invention, so they should be regarded to fall into the scope defined by the appended claims.

【0068】 To sum up, the method and system to integrating voucher issuance and redemption for promoters of the present invention can indeed meet its anticipated object and can be applied to the currently available relevant device or method, which is highly applicable to all kinds of industry.

What is claimed is:

1. A voucher issuance and redemption method for integrating a plurality of promoters by using an integration platform provided by a processing unit of a voucher issuance and redemption server to perform the following procedures:

a voucher issuance procedure, which includes following steps:

a step A1: using the integration platform to determine total voucher amount of a voucher, where the total voucher amount of the voucher is guaranteed by at least one of funds from the integration platform and the credit facility provided by the integration platform through a third party;

a step A2: determining each promoter's priority weight on the integrated platform, and establishing a mapping relationship with a set of discount items corresponding to each voucher according to each promoter's need, where each discount item corresponds to a product or service of a plurality of merchants;

a step A3: determining a voucher face amount received by each promoter based on the priority weight, and determining the discount face value corresponding to each discount item corresponding to the product or service of each merchant, thereby determining the number of vouchers for the discount items corresponding to products or services of each merchant received by each promoter, so as to generate a plurality of vouchers corresponding to each merchant;

a step A4: allocating the plurality of vouchers to user voucher accounts of users;

a voucher redemption procedure, which includes following steps:

a step B1: selecting, by a user, at least one voucher from his user voucher account through a user interface module, and then transmitting a first message to the voucher issuance and redemption server by the user interface module according to the user's selection;

a step B2: generating a difference payment order and a voucher face value settlement order by the voucher issuance and redemption server based on the first message, wherein the difference payment order is the difference between the amount of the goods or services corresponding to the at least one voucher that the user redeems and the discount amount corresponding to the at least one voucher; wherein the voucher face value settlement order is the discount amount corresponding to at least one voucher corresponding to the goods or services that the user redeems; if the amount of the difference payment order is greater than 0, proceed to a step B3 and a step B4 respectively; if the amount of the difference payment order is less than or equal to 0, proceed to the step B4;

the step B3: using the voucher issuance and redemption server to process the payment from a payer to a payee based on the difference payment order confirmed by at least one of the user interface module and an electronic device located at one merchant; by a verified difference payment module generating the difference payment order confirmed by the voucher issuance and redemption server to initiate a difference payment request;

the step B4: processing payment from an issuer to an acquirer by the voucher issuance and redemption server, based on a voucher face value settlement order; generating the voucher payment order that is verified after verifying the identities of the issuer and acquirer by a voucher payment module; and generating a voucher payment order confirmed by the voucher redemption server to initiate a voucher payment request by the voucher payment module that is verified.

2. The voucher issuance and redemption method of Claim 1, wherein the step A3 further includes:

determining the voucher face value amount obtained by the promoter based on the priority weight, and performing a promoter allocation operation, including: providing a plurality of voucher discount items from the merchants selected according to the promoter's allocation operation, where the promoter's allocation operation is to select merchants and their corresponding plurality of voucher face values corresponding to the discount items corresponding to the product or service of each merchant, and determining the corresponding voucher face values for the selected merchants, thereby determining the number of the vouchers each promoter receives for the discount item corresponding to the product or service of each merchant; and sending a voucher issuance request according to the promoter's allocation operation after receiving the allocation operation from the promoter, so as to generate a plurality of vouchers corresponding to each merchant.

3. The voucher issuance and redemption method of Claim 1 or 2, wherein the step B3 further includes that the voucher issuance and redemption server processes a payment from the payer to the payee based on the difference payment order confirmed by at least one of the user interface module and the electronic device located at each merchant, wherein the user interface module is mapped to a plurality of payment modules, each of which is connected to at least one of a plurality of payment gateways through an application programming interface (API) communication protocol, and the API communication protocol specifies a plurality of required pieces of information for a payment API from the plurality of

payment gateways, and each payment module is selectively activated by the voucher issuance and redemption server according to the user's payment method and each payment module generates the difference payment module that is verified after the identities of the payer and the payee are verified, and the difference payment module that is verified generates the difference payment order confirmed by the voucher issuance and redemption server to initiate the difference payment request.

4. The voucher issuance and redemption method of Claim 1 or 2, wherein the step B4 further includes that the voucher issuance and redemption server processes payment from the issuer to the acquirer based on a voucher face value settlement order, wherein the use interface module is mapped to the voucher payment modules; the voucher payment module is connected to at least one of a plurality of payment gateways through an application programming interface communication protocol, and the API communication protocol specifies a plurality of required information for the payment API from the plurality of payment gateways including voucher information; the voucher payment module generates the voucher payment order that is verified after verifying the identities of the issuer and the acquirer; the voucher payment module that is verified then generates a voucher payment order confirmed by the voucher issuance and redemption server to initiate the voucher payment request.
5. The voucher issuance and redemption method of Claim 1, wherein the step B1 further includes:
 - obtaining the user's region information and NFC (near field communication) tag information at each merchant through the user's mobile device by the voucher issuance and redemption server through Wi-Fi or SIM roaming, where the NFC tag information includes a merchant information and a merchant voucher redemption condition;
 - generating a set of voucher redemption amount from the user's voucher account based on the user's consumption pattern, the user's region information, the merchant information, and the merchant voucher redemption condition; and recommending at least one voucher with an effectively higher voucher redemption value; and
 - selecting at least one voucher from his user voucher account through the user interface module, and then transmitting the first message to the voucher issuance and redemption server according to the user's selection by the user interface module.

6. The voucher issuance and redemption method of Claim 5, between the step A4 and the step B1 further including a following step X: determining the consumption pattern of the user through a consumption pattern evaluation module provided in the voucher issuance and redemption server, wherein the consumption pattern evaluation module is trained through at least one algorithm and based on user information and the user information is associated with a user's region information record, a user's consumption/purchasing record or a user's usual payment method record.
7. The voucher issuance and redemption method of Claim 3, wherein the step B3 further includes: using the API communication protocol to authenticate at least one token, so as to connect the plurality of payment gateways through the at least one token and allow activating the payment gateways of the difference payment order.
8. The voucher issuance and redemption method of Claim 4, wherein the step B4 further includes:
 - using the voucher issuance and redemption server to verify whether the voucher information is valid,
 - wherein if the voucher information is valid, the voucher transaction information is converted into payment information including the corresponding promoter's virtual credit card number generated from a primary credit card number; and
 - verifying whether the payment information is valid by the acquirer, wherein if the payment information is valid, the amount of the face value corresponding to the at least one voucher is paid to the merchant.
9. The voucher issuance and redemption method of Claim 4, wherein the voucher information includes: a promoter identification code, a voucher redemption information and a credit card authorization information converted according to a transaction code through the voucher issuance and redemption server; wherein the voucher redemption information includes voucher verification information and voucher transaction information; wherein the step B4 further includes:
 - using the voucher issuance and redemption server to verify whether the promoter identification code, the voucher redemption information and the credit card authorization information are valid;
 - if the promoter identification code, the voucher redemption information and the credit card authorization information are valid, and voucher transaction

information is converted to payment information that includes the promoter's virtual credit card number generated based on the primary credit card number; and verifying by the acquirer whether the payment information is valid, where if the payment information is valid, the amount of the face value payment corresponding to the at least one voucher is paid to the merchant corresponding to the at least one voucher.

10. The voucher issuance and redemption method of Claim 1, between the step A4 and the step B1 further includes a following step Y:

providing complete information of the credit card to the voucher issuance and redemption server through the user interface module; and

transmitting the complete information of the credit card to an authentication server by the voucher issuance and redemption server, and generating a token corresponding to the complete information of the credit card and a part of the complete information of the credit card by the authentication server, and storing the token and the part of the complete information of the credit card in a storage database.

11. The voucher issuance and redemption method of Claim 10, wherein the step B3 further includes:

processing a payment from the payer to the payee based on the difference payment order confirmed by at least one of the user interface module and the electronic device located at each merchant by the voucher issuance and redemption server; wherein the user interface module is mapped to a plurality of payment modules, each of which is connected to at least one of a plurality of credit card payment gateways through an application programming interface (API) communication protocol, and the API communication protocol specifies a plurality of required information for a payment API from the plurality of credit card payment gateways, and verifies the token corresponding to the complete information of the credit card stored in the storage database to connect the plurality of credit card payment gateways, and to activate the plurality of credit card payment gateways, wherein each payment module is activated by the voucher issuance and redemption server according to at least one of the used credit cards selected by the user through the user interface module; each payment module generates the difference payment module that is verified after the identities of the payer and the payee are verified, and the difference payment module that is verified compares the part of the complete information of the credit card in the storage database corresponding to the complete information of the credit card with

the complete information of the credit card through the voucher issuance and redemption server; if the part of the complete information of the credit card is valid, and the difference payment module that is verified generates the difference payment order confirmed by the voucher issuance and redemption server so as to initiate the difference payment request.

12. The voucher issuance and redemption method of Claim 1, between the step A4 and the step B1 further includes a following step Z:

connecting at least one of the electronic devices located at one merchant and a promoter's electronic device located at the promoter with the voucher issuance and redemption server by using an NFC tag;

using the voucher issuance and redemption server to match a plurality of virtual credit card numbers generated by the primary credit card number with each promoter;

using the voucher issuance and redemption server to confirm whether the voucher information of the issued voucher is valid;

using the voucher issuance and redemption server to confirm whether the part of the complete information of the credit card corresponding to each promoter is valid; and

confirming whether the current face value allocated to each promoter is lower than the initially allocated face value.

13. A voucher issuance and redemption system for integrating plurality of promoters, including an integration platform provided by a processing unit of a voucher issuance and redemption server that is communicated with an electronic device located at each merchant and a user interface module; wherein the voucher issuance and redemption server includes a plurality of hardware circuits electrically connected with each other, which are configured into a plurality of modules, including:

a voucher issuance module, for performing the following procedures:

using the integration platform to determine a total voucher amount of a voucher, where the total voucher amount of the voucher is guaranteed by at least one of funds from the integration platform and the credit facility provided by the integration platform through a third party;

determining each promoter's priority weight on the integrated platform, and establishing a mapping relationship with a set of discount items corresponding to each voucher according to each promoter's need, where each discount item corresponds to a product or service of a plurality of merchants; determining the

voucher face amount received by each promoter based on the priority weight, and determining the discount face value corresponding to each discount item corresponding to the product or service of each merchant, thereby determining the number of vouchers for the discount items corresponding to products or services of each merchant received by each promoter, so as to generate a plurality of vouchers corresponding to each merchant; allocating the plurality of vouchers to user voucher accounts of users;

an order generation module, for generating a difference payment order and a voucher face value settlement order based on the first message generated by the user interface module according to the user's selection; wherein the difference payment order is the difference between the amount of the goods or services corresponding to the at least one voucher that the user redeems and the discount amount corresponding to the at least one voucher; wherein the voucher face value settlement order is the discount amount corresponding to at least one voucher corresponding to the goods or services that the user redeems;

a difference payment module, for processing the payment from a payer to a payee based on the difference payment order confirmed by at least one of the user interface module and an electronic device located at each merchant; by the difference payment module that is verified generating the difference payment order confirmed by the voucher issuance and redemption server to initiate a difference payment request; and

a voucher payment module, for processing payment from an issuer to an acquirer based on a voucher face value settlement order; for generating the voucher payment order that is verified after verifying the identities of the issuer and acquirer; by the voucher payment module that is verified generating a voucher payment order confirmed by the voucher redemption server to initiate a voucher payment request;

wherein the user interface module is connected to the voucher issuance and redemption server, and is mapped to the difference payment module and the voucher payment module.

14. The voucher issuance and redemption system of Claim 13, wherein the voucher issuance module further performs following steps: determining the voucher face value amount obtained by the promoter based on the priority weight, and performing a promoter allocation operation, including: providing a plurality of voucher discount items from the merchants selected according to the promoter's allocation operation, where the promoter's allocation operation is to select merchants and their corresponding plurality of voucher face values corresponding

to the discount items corresponding to the product or service of each merchant, and determining the corresponding voucher face values for the selected merchants, thereby determining the number of the vouchers each promoter receives for the discount item corresponding to the product or service of each merchant; sending a voucher issuance request according to the promoter's allocation operation after receiving the allocation operation from the promoter, so as to generate a plurality of vouchers corresponding to each merchant.

15. The voucher issuance and redemption system of Claim 13, wherein the voucher issuance and redemption server further includes:

a communication module, for obtaining the user's region information and NFC tag information at each merchant through the user's mobile device by the voucher issuance and redemption server through Wi-Fi or SIM roaming, where the NFC tag information includes a merchant information and a merchant voucher redemption condition;

a voucher recommendation module, for generating a set of voucher redemption amount from the user's voucher account based on the user's consumption pattern, the user's region information, the merchant information, and the merchant voucher redemption condition; and recommending at least one voucher with an effectively higher voucher redemption value;

a consumption pattern assessment module, for determining and tracking the consumption pattern of the user through a consumption pattern evaluation module provided in the voucher issuance and redemption server, wherein the consumption pattern evaluation module is trained through at least one algorithm and based on user information and the user information is associated with a user's region information record, a user's consumption/purchasing record or a user's usual payment method record.

16. The voucher issuance and redemption system of Claim 15, wherein the voucher payment module further includes a verification and conversion module, for verifying whether the voucher information is valid, where if the voucher information is valid, the voucher transaction information is converted into payment information including the corresponding promoter's virtual credit card number generated from a primary credit card number; verifying whether the payment information is valid by the acquirer, wherein if the payment information is valid, the amount of the face value corresponding to the at least one voucher is paid to the merchant.

17. The voucher issuance and redemption system of Claim 13, wherein the voucher information includes: a promoter identification code, a voucher redemption information and a credit card authorization information converted according to a transaction code through the voucher issuance and redemption server; wherein the voucher redemption information includes voucher verification information and voucher transaction information;

wherein the voucher payment module further includes a verification and conversion module, for verifying whether the promoter identification code, the voucher redemption information and the credit card authorization information are valid, where if the promoter identification code, the voucher redemption information and the credit card authorization information are valid, and voucher transaction information is converted to payment information that includes the promoter's virtual credit card number generated based on the primary credit card number; and

wherein by the acquirer verifying whether the payment information is valid, where if the payment information is valid, the amount of the face value payment corresponding to the at least one voucher is paid to the merchant corresponding to the at least one voucher.

18. The voucher issuance and redemption system of Claim 13, further including an authentication server connected with the voucher issuance and redemption server, wherein the authentication server is used for receiving complete information of the credit card from the voucher issuance and redemption server through the user interface module; and for generating an token corresponding to the complete information of the credit card and a part of the complete information of the credit card, and storing the token and the part of the complete information of the credit card in a storage database.

19. The voucher issuance and redemption system of Claim 13, wherein the difference payment module further processes a payment from the payer to the payee based on the difference payment order confirmed by at least one of the user interface module and the electronic device located at each merchant; wherein the user interface module is mapped to a plurality of payment modules, each of which is connected to at least one of a plurality of credit card payment gateways through an application programming interface (API) communication protocol, and the API communication protocol specifies a plurality of required information for a payment API from the plurality of credit card payment gateways, and verifies the token corresponding to the complete information of the credit card stored in the

storage database to connect the plurality of credit card payment gateways, and to activate the plurality of credit card payment gateways, wherein each payment module is activated by the voucher issuance and redemption server according to at least one of the used credit cards selected by the user through the user interface module; each payment module generates the difference payment module that is verified after the identities of the payer and the payee are verified, and the difference payment module that is verified compares the part of the complete information of the credit card in the storage database corresponding to the complete information of the credit card with the complete information of the credit card through the voucher issuance and redemption server; if the part of the complete information of the credit card is valid, then the difference payment module that is verified generates the difference payment order confirmed by the voucher issuance and redemption server so as to initiate the difference payment request.

20. The voucher issuance and redemption system of Claim 16, wherein the communication module is further used to connect at least one of the electronic devices located at one merchant and a promoter's electronic device located at the promoter with the voucher issuance and redemption server by using an NFC tag; wherein the verification and conversion module is further used to match the plurality of virtual credit card numbers generated by the primary credit card number with each promoter, and to confirm whether the voucher information of the issued voucher is valid, and to confirm whether the part of the complete information of the credit card corresponding to each promoter is valid; wherein the voucher issuance module is further used to confirm whether the current face value allocated to each promoter is lower than the initially allocated face value.
21. The voucher issuance and redemption system of Claim 13, wherein a difference payment module is further used to process a payment from the payer to the payee based on the difference payment order confirmed by at least one of the user interface module and the electronic device located at each merchant if the amount of the difference payment order is greater than 0, wherein the user interface module is mapped to a plurality of payment modules, each of which is connected to at least one of a plurality of payment gateways through an application programming interface (API) communication protocol, and the API communication protocol specifies a plurality of required pieces of information for a payment API from the plurality of payment gateways, and each payment module is selectively activated by the voucher issuance and redemption server according

to the user's payment method and each payment module generates the difference payment module that is verified after the identities of the payer and the payee are verified, and the difference payment module that is verified generates the difference payment order to initiate the difference payment request.

22. The voucher issuance and redemption system of Claim 13, wherein the voucher payment module is further used to process payment from the issuer to the acquirer based on a voucher face value settlement order if the amount of the difference payment order is less than or equal to 0, wherein the use interface module is mapped to the voucher payment module; the voucher payment module is connected to at least one of a plurality of payment gateways through an application programming interface (API) communication protocol, and the API communication protocol specifies a plurality of required information for the payment API from the plurality of payment gateways including voucher information; the voucher payment module generates that voucher payment order is verified after verifying the identities of the issuer and the acquirer; the voucher payment module that is verified then generates a voucher payment order to initiate the voucher payment request.