

METHOD AND SYSTEM FOR MANAGING A TAX REFUND

TECHNICAL FIELD

[001] The present invention relates to a method and system for managing a tax refund. More specifically, the present invention relates to a method and system for facilitating refunds, especially for a tax refund when a consumer is eligible for a tax refund when purchasing a product as a tourist overseas.

BACKGROUND

[002] To make shopping attractive to tourists, some jurisdictions that levy a Value-Added Tax (VAT) or a Goods and Services Tax (GST) allow visitors to claim a tax refund on the goods purchased within a country. This tax refund is administered upon the departure from the country, provided the goods remain unopened or unused, as well as other administrative conditions, such as a minimum time period spent in country, age of the visitor, the visitor not being employed in the country, etc.

[003] There are companies that are appointed to administer this refund on behalf of the tax authorities of a country or on behalf of the users and these often charge a service or commission fee which would form the bulk of the revenue model for the commercial contractor.

[004] When paying for the purchases at a merchant, the tourist may use a credit/debit card, and such electronic transactions would be carried out through a Point-of-sale (POS) device, where details of the transaction such as the sixteen-digit primary account number (PAN) related the credit/debit card, the transaction

amount, merchant unique code, etc is used to identify the account to be debited. The merchant would first have to identify or determine if the purchaser is an eligible tourist, and whether the transaction qualifies for a tax refund. Some jurisdictions use paper forms with accompanying envelopes for the tourist to submit the tax-refund request together with the receipt from the merchant. There are some electronic tax refund systems that tag the taxfree transaction to a PAN, however at the point of leaving the country, the tourist would still have to manually validate the transaction.

[005] As an example, in Singapore the GST paid for purchases at the shops can be refunded via an electronic Tourist Refund Scheme (eTRS). By showing a passport to the participating retailer, the retailer confirms that the purchaser is a tourist and begins the tax refund process. The participating retailer (merchant) may use either a PAN associated in the purchase or issue a paper eTRS Ticket to the tourist. With this ticket, the tourist can apply for a GST refund at the eTRS self-help kiosk before checking in at an airport or other immigration departure points such as, but not limited to, an airport or a cruise centre, where there may be a (random) Customs inspection. The reason for this process is that authorities typically require that the purchases are verified against the invoices or receipts, and the goods are unused, unopened and exported out of the country and this is done at a counter either before check in (for goods that are to be checked in) or after immigration, to ensure that the goods are exported.

[006] With the proliferation of mobile devices, it is common for tourists to travel with at least one personal mobile device that may be used to connect to the

internet either via a wireless fidelity (Wi-Fi) networks or mobile telecommunications networks. Hence, it is envisaged that the functions of the mobile device, in particular smartphones, can be better utilized in allowing electronic tax refunds to be facilitated through the use of a dedicated application residing on this mobile device together with its onboard camera, geo-location module, wireless communication module (Bluetooth and Wi-Fi), alarm notifications, internet connectivity etc.

[007] Hence, there is a need for a tax refund system and method that is able to alleviate the above-mentioned drawbacks or meet the above needs at least in part.

SUMMARY

[008] The above and other problems are solved and an improvement in the art is made by a method and system in accordance with this invention. A first advantage of the method and system in accordance with this invention is that the tourist participating in this will not have to worry about missing out on a tax refund. There is no need for paper forms or manual electronic submissions or for the merchant to trigger the tax refund process, thus no reason to miss out on potential tax refunds. A second advantage of the method and system in accordance with this invention is the ease for the merchant since the system would determine whether a transaction qualifies for a tax refund and compute the amounts automatically. This reduces the possibility of errors in completing the transaction and the tax refund. A third advantage of the method and system in

accordance with this invention is monitoring the refunds provided to tourist is easier with a consolidated system that processes the transactions and requests the refunds while being separate from the government systems. This allows for system segregation for protection and easier monitoring of statistics.

[009] The present invention provides a system and method of providing a refund to a participant of a program when a transaction is made at a merchant. In one embodiment in accordance with the invention, there is a method of providing a refund to a participant of a program when a transaction is made at a merchant, the method comprising sending a detail of a transaction payment to a program server; identifying the participant using the detail of the transaction payment by retrieving and matching an account element associated with the participant from a database with the detail of the transaction payment; determining from the transaction payment that the transaction satisfies a criteria for a refund; communicating the refund to an external server; validating the refund with the external server when the participant triggers a condition; and informing the participant of an outcome in validating the refund; where the account element is a credit card number belonging to the participant and the detail of the transaction payment is the credit card number used in the transaction. In a further embodiment in accordance with the invention, the step of validating the refund is triggered manually by the participant. In yet a further embodiment, the participant uses an application to trigger the validating of the refund. Also, in another embodiment, the application resides on a mobile device. In yet another embodiment in accordance with the invention, the step of validating the refund is

triggered automatically when the participant is determined to be exiting a jurisdiction. In further embodiments, the program server is informed by a mobile device belonging to the participant when the participant is at an exit point of the jurisdiction.

[0010] In another embodiment in accordance with the invention, the method also comprises sending a ticket to a merchant device where the transaction was made after determining from the transaction payment that the transaction satisfies a criteria for a refund. In further embodiments, the merchant device responds with a request to the program server and the program server issues an invoice to the participant. In alternative embodiments, the method further comprises the step of crediting the refund to the participant via an account associated with one of: a credit card, a debit card, a bank, a rewards program, a loyalty program, an electronic wallet, or an online account. In some embodiments, the detail of the transaction payment is a detail relating to one of a debit card, a credit card, a digital wallet, a rewards coupon, a loyalty program, an electronic voucher.

In accordance with an embodiment of the invention, there is a system for providing a refund to a participant of a program when a transaction is made at a merchant, the system comprising a host comprising a server and a database, the server including a data processing system including a processor and memory, the data processing system configured to: receive information on a transaction including a detail of a transaction payment; identify the participant using the detail of the transaction payment by retrieving and matching an account element associated with the participant from the database with the detail of the

transaction payment; determine that the transaction satisfies a criteria for a refund; communicate the refund to an external server; validate the refund with the external server when the participant triggers a condition; and inform the participant of an outcome of the refund; where the account element is a credit card number belonging to the participant and the detail of the transaction payment is the credit card number used in the transaction.

In other embodiments, the system further comprises a mobile device belonging to the participant, wherein the mobile device is used by the participant to communicate to the host to begin the process to validate the refund. In further embodiments, the method has a mobile device belonging to the participant, wherein the mobile device automatically communicates to the host to begin the process to validate the refund. In alternate embodiments, the mobile device automatically communicates to the host to begin the process to validate the refund when the mobile device detects that it is about to leave a jurisdiction. In yet further embodiments, the host is configured to send a ticket to a merchant device where the transaction was made after determining from the transaction payment that the transaction satisfies a criteria for a refund. In yet other embodiments, the merchant device responds with a request to the host and the host issues an invoice to the participant. In alternative embodiments, the host arranges for a refund to be credited to an account associated with one of: a credit card, a debit card, a bank, a rewards program, a loyalty program, an electronic wallet, or an online account. In yet further embodiments, the detail of the

transaction payment is a detail relating to one of a debit card, a credit card, a digital wallet, a rewards coupon, a loyalty program, an electronic voucher.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The accompanying drawings, which are incorporated herein and form part of the specification, illustrate various embodiments of the present disclosure and, together with the description, further serve to explain the principles of the disclosure and to enable a person skilled in the pertinent art to make and use the embodiments disclosed herein. In the drawings, like reference numbers indicate identical or functionally similar elements.

[0012] Figure 1 illustrates a representation of a network of data processing systems in which aspects of the disclosed embodiments may be implemented;

[0013] Figure 2 illustrates a schematic view of a software system for carrying out an embodiment;

[0014] Figure 3 illustrates a method of managing and valuing a record of an intellectual property asset in accordance with an embodiment of the invention.

[0015] Figure 4 illustrates how a method of managing and creating a record of an intellectual property asset flows in accordance with an embodiment of the invention.

[0016] Figure 5 illustrates how a method of managing and creating a record of an intellectual property asset moves data in accordance with an embodiment of the invention.

DETAILED DESCRIPTION

[0017] The various configurations discussed in these non-limiting examples can be varied and are used to illustrate at least one embodiment and are not intended to limit the scope thereof.

[0018] Figure 1 shows a record system in accordance with an embodiment of the invention is illustrated. The system 110 includes a server 112. In other embodiments, the server 112 can be any processing device including a processor and sufficient resources to perform the process of providing a rebate to a customer. The server 112 can be any processing device including a processor and sufficient resources to perform the process of providing a rebate to a customer. The server 112 is connected to an HTTP server 114. HTTP server 114 uses HTTP or any other appropriate stateless protocols to communicate via a network 116 such as the Internet, with any other device connected to the network 116.

[0019] In the illustrated embodiment, user devices include personal computers 118, CE players, and mobile phones 120. In other embodiments, user devices can include consumer electronic devices such as televisions, set top boxes, video game consoles, tablets, and other devices that are capable of connecting to a server via HTTP and playing back encoded media. A storage unit 130, which can be in the form of memory, databases etc, is in communication with the network 116. Although a specific architecture is shown in Figure 1, any of a variety of architectures including system that perform conventional processes can

be utilized that enable playback devices to request portions of the top level index file and the container files in accordance with embodiments of the invention.

[0020] Some process for providing methods and systems in accordance with embodiments of this invention are executed by a user device or user mobile device. The relevant components in a playback device that can perform processes including adaptive streaming processes in accordance with embodiments of the invention are shown in Figure 2. One skilled in the art will recognize that user device 200 may include other components that are omitted for brevity without departing from the embodiments of the invention as described. The user device 200 includes a processor 205, a non-volatile memory 210, and a volatile memory 215. The processor 205 is a processor, microprocessor, controller, or a combination of processors, microprocessor, and/or controllers that performs instructions stored in the volatile 215 or non-volatile memory 210 to manipulate data stored in the memory. The non-volatile memory 210 can store processor instructions utilized to configure the user device 200 to perform processes including processes in accordance with embodiments of the invention and/or data for the processes being utilized. In other embodiments, the user device software and/or firmware can be stored in any of a variety of non-transitory computer readable media appropriate to a specific application.

[0021] The communications network refers to any contact between the parties described and is accomplished through any suitable communication means, including, but not limited to, a telephone network, public switch telephone network, intranet, Internet, extranet, WAN, LAN, point of interaction device, point

of sale device, personal digital assistant, cellular phone, kiosk terminal, automated teller machine (ATM), etc.), online communications, off-line communications, wireless communications, satellite communications, and/or the like. One skilled in the art will also appreciate that, for security reasons, any databases, systems, or components of the present invention may consist of any combination of databases or components at a single location or at multiple locations, wherein each database or system includes any of various suitable security features, such as firewalls, access codes, encryption, de-encryption, compression, decompression, and/or the like.

[0022] Figure 3 illustrates a high-level flow chart of operations illustrating logical operational steps of a method 300 for managing a tax refund, in accordance with the disclosed embodiments. It can be appreciated that each of the steps or logical operations of the method 300 depicted in Figure 3 can be implemented by executing a program instruction or a group of instructions in the system.

[0023] The method 300 begins with when the user, who is a tourist and a participant of the program, makes a purchase a merchant affiliated with a rewards server using a credit card that has been registered or affiliated with the rewards server 310. The purchase transaction details are transmitted to the acquirer bank and the transaction details are forwarded to the rewards server 320. There may be an additional step in terms of transmitting the purchase transaction details for a credit card if the acquirer bank is not the card issuer, where the authorization requests is forwarded to the issuer via the card scheme to authorize the payment. The rewards server determines if the transaction

satisfies the criteria for a tax refund or a tax-free transaction, and then generates a ticket that is transmitted to the merchant system 330. This may be due to the payment transaction having insufficient information to generate a tax-free invoice, only enough information to determine the eligibility of the tourist for a tax refund. This ticket invokes the Merchant system to send an issuing request, which contains all the information required to generate a tax-free invoice. The merchant responds to the rewards server with an issuing request and the rewards server generates a tax-free transaction on behalf of the merchant to the user 340. The rewards server may transmit the issued tax-free invoice to the Customs system 350. When the system either detects or is informed that the user or tourist is about to leave the country, the rewards server can trigger the validation of the issued tax-free invoice with the Customs system 360. The Customs system 360 may respond with a request to inspect the good and allow the system to inform the user or tourist accordingly. Thereafter the user is informed when the successful validation occurs 370. The refund can then be credited to the user via an account associated with one of: a credit card, a debit card, a bank, a rewards program, a loyal program, an electronic wallet, or an online account. Having the refund credited to a rewards program or any form of currency allows the system to be agnostic in terms of currency fluctuations.

[0024] Another view of the method 400 can be seen in Figure 4, where the broad steps of the method are:

- 1) The member 401 pays at the merchant using a debit/credit card 402 or a digital wallet installed or registered on a mobile application 403, and the payment

is made at a POS terminal or an equivalent device 410, including a mobile device or computer.

2) A payment authorization request, which can include details such as the merchant ID, terminal ID, payment token, payment scheme ID, amount, currency, date, etc is transmitted to the acquirer (typically a bank) in the case of a debit/credit card or a digital wallet authorization host in the case of a digital wallet 420.

3) In some instances, the acquirer 420 is not the issuer (bank), then the payment authorization request is forwarded to the issuer 435 via credit card scheme 430 to authorize the payment.

4) Once the credit card scheme 430 (or issuer 435) approves and authorizes the transaction, an authorization response together with the authorization code is transmitted back to the acquirer 420.

5) The authorization response is communicated to the POS terminal 410, and the POS terminal 410 transmits the payment transaction details to the merchant system 440 which links it to the sales transaction purchased by the member.

6) At the end of the authorization flow, the payment transaction data are forwarded to a rewards host or rewards server 425, and the payment transaction data can contain the authorization requests and response data.

7) The rewards host/server 425 determines if the transaction has been issued by an affiliated Merchant by means of the merchant ID, as well as whether

the transaction belongs to a member by means of the hash of the credit card PAN or the identity token linked to the digital wallet utilized; The rewards server can forward the transaction to the taxfree module 450 and the taxfree module 450 can incorporate a processor to discriminate if a transaction is eligible for a tax-free invoice. As further optimization, only transactions belonging to an affiliated tourist or user and generated at an affiliated merchant will be forwarded to therewards server.

8) The taxfree module or system 450 verifies the eligibility of the member by means of comparing the country of residence of the affiliated member and the country of the merchant where the purchase took place. Taxfree module 450 can reside within the rewards host/server 425 or can sit separately as a taxfree system 450 in communication with the rewards host/server 425.

9) If the member is eligible and merchant has been integrated for automatic issuing, the taxfree system 450 invokes the merchant frontend system 440 to recall the sales details linked to the payment transaction; This request may request for information such as the merchant ID, terminal ID, authorization code, date, etc. An optional step is to notify the user or the member of the transaction and allowing the member to select whether to reject or accept the transaction.

10) The merchant frontend system 440 then transmits the issuing request with the sales details request to the taxfree system 450 and this includes details such as the merchant ID, terminal ID, authorization code, date, etc.

11) The taxfree system 450 then transmit a taxfree issuing response to the merchant frontend 440 which includes all the information required to request for a tax refund from the invoice details, for example, the transaction details, member details, transaction ID, Refund amount and other data required for the tax refund.

12) The taxfree system 450 then informs the member 401 regarding the issued transaction, either via a notification within the mobile application 403, a message service, or email.

13) Based on the notification received, the member 401 has the option to reject or accept the transaction as they are received. This may occur when the user purchases an item that is not intended to be brought out of the country, thus ineligible for a tax refund. A further option within the mobile application would enable transactions to be automatically accepted or rejected.

14) After having sent the taxfree issuing response to the Merchant frontend, the taxfree system or the Merchant system transmits the issued taxfree invoice to the Authority (either the Fiscal or the Customs). In case the taxfree invoice is sent to the Fiscal Authority, it will be then responsibility of the Fiscal Authority to forward the transaction to the Customs system, and the validation of the tax refund would occur.

For the validation there are 2 main scenarios:

1) The Customs Authority provides a secured wireless infrastructure at each point of exit, where the application on the mobile phone connects to and asks for a security token (digitally signed) that corroborates being at the point of exit using

the connection of the mobile and/or mobile application to that specific network at a specific date & time.

2) The system can determine the location and status of the mobile or mobile application using geo-location features such as wifi, 3G, GPS or geo-points or geo fencing of any exit point, when determines that the Mobile phone is at (within a specific radius) one of these exit points. This invokes the taxfree system in order to generate a security token (digitally signed) that corroborates from the location and time of when the mobile application requests the validation that the mobile phone running the pplication is at the exit point.

The validation procedure in either scenario would then occur with the mobile application interating with the taxfree system on the backend notifying the taxfree system that the user (and the mobile phone) is presently at one of the exit points. The taxfree system, in communication with or integrated within the Customs system, can then request the validation of the outstanding transactions by providing: the security token, details of the member, details of each transaction. The Customs system would then authorize the request and the taxfree system notifies the member and credits the refund amount to the member. In the event that the Customs system determines that there should be an inspection, the taxfree system notifies the member asking her to present herself at the Customs office for goods inspection. Subsequently if authorized, the Customs system either notifies the taxfree system or a request is sent by the taxfree system to poll the Customs system regarding the request. Once being informed of the authorization the taxfree system credits the refund amount to the member.

[0025] There are some conditions that must be present for the method 400 to be carried out. For example, the member 401 must already be affiliated with the rewards host or server, typically through a registration or sign up process. Also, the payment method used by the member needs to be registered with the rewards host or on the mobile application, and the payment method can either be a debit card, a credit card, a digital wallet, rewards coupons, loyalty points, electronic vouchers, etc. The merchant also needs to be affiliated with the rewards host/server, also through a sign up process. Obviously, the member needs to make the purchase in a country where he or she is eligible for tax-free shopping in order for the above method to proceed.

[0026] An optional step by the merchant frontend 440 is to provide a taxfree issuing response to the taxfree system which includes merchant fiscal invoice details.

[0027] In the instances where the member 401 rejects the transaction in steps 9 or 14, the taxfree system may mark the transaction as rejected to avoid claiming the validation with the customs authorities.

[0028] By automating the taxfree request, the overall transaction is sped up considerably, since the procedure in purchasing is mostly handled by the system and reduces the amount of errors in transactions which may result in an unsuccessful refund when submitted to the Customs authorities. This would also allow for greater volumes of tax refundable transactions to take place, as well as reduce the amount of fraud with reduced level of human intervention required.

[0029] The overall flow 550 of the method 500 in one embodiment of the invention in terms of the user experience is exemplified in Figure 5. The method 500 begins when a user signs up with the rewards platform or server and in the sign up process 510, various pertinent details relating to the user are captured, for example debit/credit card details, membership in various programs, home country of residence, and contact details such as mobile phone number (for faster verification through two-factor authentication), etc. This sign up process can be done by visiting an internet address hosting a site running the program or by downloading and using the appropriate mobile application for a mobile device, upon which the user then becomes an affiliated member. The relevant information can also be captured (or entered or updated later) by having the user fill in details relating to his or her passport, and have a picture or scan of the passport captured. These details can be amended with the appropriate verification of identity, such that debit/credit card can be added, deleted or amended. At the shop 520, the tax-free digital form is issued automatically when the user makes a purchase at a shop outside his home country that is eligible for a tax refund using a credit card that was affiliated in the system. As the system handles the backend processes, there is no change in the process of purchasing goods. A notification may be sent to the user either via contact details stated or even through the mobile application that a tax-refund has been initiated. When the user is leaving the country 530, there is no need to queue since the system is triggered to this fact and activates the tax refund process with the relevant authorities and systems. There is no need for the user to queue to process the

tax refunds, and in some case, validation can even take place automatically. Once the user is out of the relevant tax jurisdiction 540, the refund is credited once validation has occurred and this is carried out through the user's preferred payment channel, which may or may not be the same credit card used to activate the transaction and the process ends. From a user's point of view, aside from the initial sign up, there is no change in the process of purchasing goods overseas except that there is no need to remember to claim the tax refund, and queue to process and submit their tax refund requests, thus saving time and money.

[0030] As understood by one of ordinary skill in the art, the present invention can be implemented with special purpose computers, devices, and servers that are programmed to implement the embodiments described herein. Further, the system according to the embodiments disclosed herein is able accommodate many more combinations and permutations, or any other future electronic payment methods. For example, the system according to the embodiments disclosed herein can accommodate cloud based tax refund system as well as electronic wallets and digital credits.

[0031] Thus, the present invention has been fully described with reference to the drawing figures. Although the invention has been described based upon these preferred embodiments, to those of skill in the art, certain modifications, variations, and alternative constructions would be apparent, while remaining within the spirit and scope of the invention. In order to determine the metes and bounds of the invention, therefore, reference should be made to the appended claims.

CLAIMS

1. A method of providing a refund to a participant of a program when a transaction is made at a merchant, the method comprising:

 sending a detail of a transaction payment to a program server;

 identifying the participant using the detail of the transaction payment by retrieving and matching an account element associated with the participant from a database with the detail of the transaction payment;

 determining from the transaction payment that the transaction satisfies a criteria for a refund;

 communicating the refund to an external server;

 validating the refund with the external server when the participant triggers a condition; and

 informing the participant of an outcome in validating the refund;

wherein the account element is a credit card number belonging to the participant and the detail of the transaction payment is the credit card number used in the transaction.

2. The method of claim 1 wherein the step of validating the refund is triggered manually by the participant.

3. The method of claim 2, wherein the participant uses an application to trigger the validating of the refund.

4. The method of claim 3, wherein the application resides on a mobile device.
5. The method of claim 1 wherein the step of validating the refund is triggered automatically when the participant is determined to be exiting a jurisdiction.
6. The method of claim 5 wherein the program server is informed by a mobile device belonging to the participant when the participant is at an exit point of the jurisdiction.
7. The method of claim 1 further comprising sending a ticket to a merchant device where the transaction was made after determining from the transaction payment that the transaction satisfies a criteria for a refund.
8. The method of claim 7 wherein the merchant device responds with a request to the program server and the program server issues an invoice to the participant.
9. The method of claim 1, further comprising the step of crediting the refund to the participant via an account associated with one of: a credit card, a debit card, a bank, a rewards program, a loyalty program, an electronic wallet, or an online account.
10. The method of claim 1, wherein the detail of the transaction payment is a detail relating to one of a debit card, a credit card, a digital wallet, a rewards coupon, a loyalty program, an electronic voucher.

11. A system for providing a refund to a participant of a program when a transaction is made at a merchant, the system comprising:

a host comprising a server and a database, the server including a data processing system including a processor and memory, the data processing system configured to:

receive information on a transaction including a detail of a transaction payment;

identify the participant using the detail of the transaction payment by retrieving and matching an account element associated with the participant from the database with the detail of the transaction payment;

determine that the transaction satisfies a criteria for a refund;

communicate the refund to an external server;

validate the refund with the external server when the participant triggers a condition; and

inform the participant of an outcome of the refund;

wherein the account element is a credit card number belonging to the participant and the detail of the transaction payment is the credit card number used in the transaction.

12. The system of claim 11 further comprising a mobile device belonging to the participant, wherein the mobile device is used by the participant to communicate to the host to begin the process to validate the refund.

13. The system of claim 11 further comprising a mobile device belonging to the participant, wherein the mobile device automatically communicates to the host to begin the process to validate the refund.

14. The system of claim 13, wherein the mobile device automatically communicates to the host to begin the process to validate the refund when the mobile device detects that it is about to leave a jurisdiction.

15. The system of claim 11, wherein the host is configured to send a ticket to a merchant device where the transaction was made after determining from the transaction payment that the transaction satisfies a criteria for a refund.

16. The system of claim 15, wherein the merchant device responds with a request to the host and the host issues an invoice to the participant.

17. The system of claim 11, wherein the host arranges for a refund to be credited to an account associated with one of: a credit card, a debit card, a bank, a rewards program, a loyalty program, an electronic wallet, or an online account.

18. The system of claim 11, wherein the detail of the transaction payment is a detail relating to one of a debit card, a credit card, a digital wallet, a rewards coupon, a loyalty program, an electronic voucher.