Order Processing Method and Device

This application claims priority to Chinese Patent Application No. 201610239677.X filed on April 18, 2016 and entitled "Order Processing Method and Device," the entire content of which is incorporated herein by reference in the entirety.

Technical Field

This application belongs to the field of online payment technologies, and in particular, to an order processing method and device.

Background

With the constant development of internet technologies, people are increasingly using the internet to meet life's basic demands, such as online shopping, online navigation, online searching, and online registration, etc. Online shopping, in particular, has become an increasingly important way for people to make purchases.

When making online payments, people generally use a credit card or third party payment institution to carry out the payment. Typically, these payment modes are relatively simple when the payment is domestic, i.e., made within a country, but certain problems can arise in cross-border e-commerce. This is because, in cross-border e-commerce, if a user uses a browser to make a payment, it is often necessary to use browser redirection to notify the delivering party that a payment has been made. If the user closes the browser after making the payment, the delivering party has no way of learning of the information that the user has paid, and under these circumstances, the delivering party will not deliver.

In this situation, the user needs to actively initiate a refund request, at which point the delivering party conducts review and confirmation. Only after the delivering party has carried out the review and confirmation, the third party payment institution is notified to issue a refund. The refund review cycle is quite long, and the refund request flow is rather complicated.

An effective solution to this problem has yet to be addressed.

Summary

The objective of this application is to provide an order processing method and device, making it possible to quickly and simply refund the user after the user pays for an order and delivery is unsuccessful, and improving the user experience.

The order processing method and device provided by this application may be achieved as follows:

An order processing method, the method comprising:

obtaining, by a third party payment institution, an order that is paid but not successfully

delivered by a delivering institution;

actively initiating, by the third party payment institution, a refund operation for the paid order for which delivery is unsuccessful.

An order processing device disposed within a third party payment institution, the device comprising:

an acquisition module configured to obtain an order that is paid but not successfully delivered by a delivering institution;

a refund module configured to actively initiate a refund operation for the paid order for which delivery is unsuccessful.

The order processing method and device provided by this application may use active triggering by a third party payment institution to query whether a paid order has been delivered. For a paid order that has not been delivered, the third party payment institution actively triggers a refund operation, thus making it possible to quickly refund orders requiring a refund, solving the technical problem of overly complicated order refund flows and lengthy refund cycles in the current technologies, and achieving the technical effects of effectively shortening the refund cycle and improving the user experience.

Brief Description of the Drawings

To more clearly explain the technical schemes in the embodiments of this application or in the current technologies, a simple explanation of the accompanying drawings required to describe the embodiments or current technologies is given below. Obviously, the accompanying drawings in the following description are merely some embodiments recorded in this application. For a person having ordinary skill in the art, without spending creative labor, it is possible to obtain other accompanying drawings based on these accompanying drawings.

FIG. 1 is a method flow diagram of an embodiment of the order processing method provided by this application;

FIG. 2 is an interaction flow diagram for an existing ticket in this application;

FIG. 3 is an interaction flow diagram for an existing cross-border ticket in this application;

FIG. 4 is another interaction flow diagram for an existing cross-border ticket in this application;

FIG. 5 is an interaction flow diagram for the cross-border ticket provided by this application;

FIG. 6 is a structural block diagram for the order processing device provided by this

application.

Detailed Description

To enable a person in this technical field to better understand the technical schemes of this application, in combination with the accompanying drawings of the embodiments of this application, a clear and comprehensive description of the technical schemes in the embodiments of this application is given below. Of course, the described embodiments are merely some, rather than all, of the embodiments of this application. Based on the embodiments of this application, and without making creative labor, all other embodiments obtainable by a person having ordinary skill in the art shall fall within the scope of protection of this application.

In conjunction with the accompanying drawings, the following is a detailed explanation of the order processing method and device of this application. FIG. 1 is a method flow diagram of an embodiment of the order processing method presented by this application. Even though this application provides the method operation steps or device structures of the embodiments or accompanying drawings described below, based on conventional or non-creative labor, the method or device may comprise more or fewer operation steps or module structures. In steps or structures for which there are no logically required causal relationships, the implementation sequence of the steps or the module structure of the device is not limited the implementation sequence or module structure provided by the embodiments of this application. During actual implementation of the device or end product of the method or module structure, sequential implementation or parallel implementation is possible in accordance with the method or module structure connections shown in the embodiments or accompanying drawings (e.g., a parallel processor or multithread processing environment) .

This application takes the approach of a user purchasing a plane ticket from a foreign airline, and actively issues a refund for such scenarios prone to having regular delivery impossible due to certain faulty operations after the user has paid, without carrying out a series of complex refund operations only after waiting for the customer to request a refund. Because the refund is actively conducted by a third party payment structure, it is possible to quickly and simply implement refund operations. For example, a status acquisition and interpretation system is added within the third party payment institution, thus enabling the third party payment institution to promptly discover a situation in which payment has been made with no delivery. Of course, this application may be applied not only to situations in which a user purchased a plane ticket from a foreign airline, but also to other online payment situations.

For example, as shown in FIG. 1, an embodiment of the order processing method provided by this application may comprise:

S1: Obtaining, by a third party payment institution, an order that is paid but not successfully delivered by a delivering institution.

That is, after a user completes the payment, the third party payment institution actively determines whether the delivery is successful, instead of not discovering the unsuccessful delivery until the user applies for a refund. For example, at each preset time interval (e.g., one hour), the third party payment institution can obtain all of the payment orders from this time interval, then determine, one by one, whether these payment orders have been successfully delivered. Also, a timestamp may be configured for every successfully paid order, then after a preset time (e.g., 30 minutes) after this order was paid, whether this order has been delivered can be determined. For example, order A is paid at AM8:00, and at AM8:30, the third party payment institution can actively determine whether order A has been delivered.

However, it is worth noting that the two preceding determination mechanisms are simply to better explain this invention. Other trigger mechanisms can be employed to make a determination, e.g., a mode combining these two modes, or configuring different preset times for different orders.

With the constant development of cross-border e-commerce, more and more foreign airlines are using online payment modes to conduct plane ticket sales to domestic users. When conducting online plane ticket sales services, foreign airlines generally elect to link up with UATP (Universal Air Travel Plan) in order to lower the high costs associated with the user and airlines using credit card as the payment and settlement tool. UATP is a business travel payment network shared by global airlines. The UATP card is issued by airlines around the world, and it is a low-cost payment scheme provided by airlines to its business customers. UATP promises free services for its airlines. Below, an explanation is given using the active refund flow as an example when a cross-border purchase of a plane ticket is made, and prior to this, an explanation is given for the existing ticket and refund flow for a cross-border plane ticket purchase:

As shown in FIG. 2, the flow for an overseas user makes a foreign purchase of a plane ticket from an airline company linked to UATP primarily comprises: after the user selects a plane ticket, the overseas airline generates a plane ticket amount and asks UATP to perform card activation; UATP claims a virtual UATP card, conducts preauthorization for the current payment, and returns the activation results to the overseas airline. The overseas airline uses a browser page to guide the user to a payment page. The user chooses a credit card to complete

the payment, then preauthorization of the user's credit card is conducted by the overseas user's card issuing bank. UATP performs preauthorization confirmation for the virtual card. Next, the overseas user's card issuing bank returns the credit card preauthorization confirmation to the overseas airline, then the overseas airline issues a ticket and notifies the user of the successful ticket issuance.

However, during cross-border online ticket purchases as described above, the interactions between different institutions involved in the entire payment flow are conducted through browser page redirection modes. This can lead to problems. For example, if the payment by the user in Step 2.3 of FIG. 2 is successful, but the user carelessly closes the browser, this will inevitably cause the airline to fail to detect the user's successful payment action, in which case the overseas airline will not choose to issue a ticket. When this scenario is overseas, i.e., when the user is an overseas user, preauthorization cancellation costs are very low because the user employs credit card payment; it is possible to immediately cancel the preauthorization by the overseas user calling the issuing bank directly, solving the problem of payment without a ticket being issued. However, when a foreign airline conducts business domestically, it links up with a third party payment institution, and when the third party payment institution is not the card's issuing bank, it is extremely difficult for the user to conduct a refund. It is necessary to lodge an appeal with the overseas airline. Afterward, the overseas airline company initiates a third party payment institution refund. The flow is complicated, and the cycle is quite long.

For situations in which payment is conducted through a domestic third party payment institution, as shown in FIG. 3, the flow such as virtual UATP card activation and the like comes after user payment. Then, after virtual UATP card activation, a ticket is issued through the overseas airline. In the payment flow under these circumstances, when the airline links with a third party payment institution, information notification is still conducted employing browser-based page redirection modes. The problem of the user closing the browser after successful payment persists, making it impossible for the airline to be notified of the payment results. Also, a situation may arise in which the user cannot obtain a plane ticket following payment. To this end, the third party payment institution presents an overseas airline payment request scheme, as shown in FIG. 4. After the user's successful payment becomes known, the overseas airline consults with UATP on whether the current virtual UATP card has achieved preauthorization confirmation. If so, the overseas airline issues a ticket, i.e., the overseas airline triggers the payment request by itself.

However, even with these operations, the problem of the user closing the browser may

still arise, leading to a failure to notify the airline of payment results. This is because, after the user closes the browser, the overseas airline has no way of obtaining the card number of the virtual UATP card, and when the overseas airline actively makes a payment request, it is not possible to request payment for this transaction. Thus, if a given time limit has passed, the third party payment company can refund the payment amount to the user who has not received a plane ticket, but the entire flow relies upon a term of validity. Usually, this term of validity is reasonably set, e.g., for 7 days, such that the user must wait seven days before obtaining a refund, and the user experience is quite poor.

If the order processing method provided by this example is employed, the virtual card activation and user payment results are carried out within the third party payment institution and can be known by the third party payment institution. In this case, if the user closes the browser after making a payment and thus prevents ticket issuance, the third party payment institution can actively determine the results of preauthorization confirmation conducted by the overseas airline in UATP for the virtual UATP card. If the user makes a payment within the third party payment institution, but the virtual card's status as consulted by the third party payment institution from UATP is not a confirmed preauthorization status, it means that the faulty user operations have resulted in the overseas airline failing to confirm preauthorization with UATP. This also means that the airline has not issued a ticket. At such time, the third party payment institution can actively initiate a refund to the user, and does not need to wait for a payment request to undertake a refund operation. The entire refund cycle can be vastly shortened. For example, it is possible to set a confirmation rule for a third party payment institution. As an illustration, the two following modes can be employed to conduct confirmation:

1) A third party payment institution queries UATP every preset time interval (e.g., one hour) for payments made for one or more orders within the preset time, but having an unconfirmed preauthorization status as the virtual UATP card status. The third party payment institution uses these one or more orders that were paid within the preset time but have a virtual UATP card status of unconfirmed preauthorization as paid orders for which delivery by the delivering institution is unsuccessful. That is, a time cycle is set, and for each of these time cycles, the third party payment institution conducts centralized confirmation, finding which orders among these have been paid but have not entered a confirmed status, to be used as orders requiring a refund.

2) A third party payment institution determines whether the time since the successful payment of the current order has reached a second preset time. If the second preset time has

been reached, the third party payment institution queries from UATP whether the current order's virtual UATP card status is an unconfirmed preauthorization status; if it is an unconfirmed preauthorization status, the third party payment institution uses the current order as a paid order for which delivery by the delivering institution is unsuccessful. That is, a grace period is set for every order. When the grace period has expired, it is determined whether this order is an order that has been paid but not delivered. If yes, this order is used as an order requiring a refund.

S2: Actively initiating, by the third party payment institution, a refund operation for the paid order for which delivery is unsuccessful.

That is, the payment institution actively carries out a refund to the user, because it is a determination operation actively triggered by the third party payment institution. This way, refund can be processed directly after confirmation that these orders require the refund, without having to wait for the delivering party to trigger the refund, thus making it possible to effectively boost refund efficiency.

For example, during implementation, the refund can be placed directly in the ordering user's third party payment institution account, returned to the ordering user's bundled bank card, or returned to the payer of a different payment amount. The specific place to which the refund is made can be specially designated.

For example, at a preset time (within one hour), the third party payment institution queries the following orders. Their corresponding preauthorization confirmation statuses are as shown in the table below:

Order no.	Payment status	Preauthorization confirmation status
FJ00252	Paid	Confirmed
HC03251	Unpaid	Unconfirmed
GH89023	Paid	Unconfirmed
IK35245	Paid	Confirmed
NB4523	Paid	Confirmed

This table shows that the order GH89023 has a status of paid but unconfirmed, which indicates that this is an order involving faulty user operations and requires refund operations. At this time, the third party payment institution can refund this order as needed.

Using the method above, after the user makes a payment, if faulty operations lead to the browser being closed and the impossibility to conduct redirection, the third party payment institution's refund can be received within a short period of time, and the user can be

informed of the reason for refund, effectively improving the user experience.

The following, in combination with a detailed embodiment, is an explanation of the entire order flow. In this embodiment, the example of a domestic user using a third party payment institution to conduct the cross-border purchase of a plane ticket from an overseas airline is used as an illustration. However, it is worth noting that this detailed embodiment is merely to better explain this invention, and it does not constitute an improper limitation to this invention.

According to the current cross-border plane ticket processing mode of FIG. 4, in the existing user refund process for cross-border purchase of plane tickets, the user refund behavior relies upon the airline's payment request, and the refund initiative lies with the overseas airline. In this example, the refund initiative is transferred to the domestic third party payment institution. By actively consulting the preauthorization confirmation status of the UATP card, the third party payment institution makes a decision and determines whether to undertake refund operations for the user. This transfer of the refund initiative can effectively boost refund efficiency.

Specifically, in this example, the entire order processing process can include the following steps, as shown in FIG. 5:

Step 1: A domestic user goes to the website of an overseas airline and selects a plane ticket;

Step 1.1: The overseas airline records the plane ticket information;

Step 1.2: The overseas airline guides the user to a payment page;

Step 2: The domestic user chooses a third party payment institution for the payment;

Step 2.1: The third party payment institution completes the user's payment;

Step 2.2: The third party payment institution generates a virtual UATP card and requests activation;

Step 2.3: A domestic third party payment institution goes to UATP for UATP virtual card activation;

Step 2.3.1: UATP returns an activation successful result to the third party payment institution;

Step 2.3.1.1: The third party payment institution notifies the domestic user that the charge deduction was successful;

Step 2.3.1.1.1: The user closes the browser, and the overseas airline cannot learn that the user has paid, nor conduct preauthorization confirmation; therefore, it cannot issue a ticket;

Step 3: The third party payment institution obtains information on plane tickets paid for

by users within one hour and virtual UATP card numbers;

Step 4: In UATP, the third party payment institution queries virtual card preauthorization statuses and determines whether the virtual cards have undergone preauthorization confirmation;

Step 5: If the virtual UATP card of the current successfully paid plane ticket has not undergone preauthorization confirmation, a refund is processed;

Step 6: The third party payment institution issues a refund to the user.

The above example demonstrates a third party payment institution querying confirmation for all orders within a preset time interval. In an actual implementation, separate confirmation queries can be conducted for each order rather than employing a centralized approach. The specific processing mode can be determined in accordance with needs.

Furthermore, it should be noted that in the preceding example, a user making a cross-border purchase of a plane ticket is used as an illustration. This type of active confirmation by a third party payment institution on whether a refund is required can also be applied to other payment situations. As long as there is a protocol or rule for conducting confirmation according to a preset mode, this type of order processing mode can be applied to any payment flow to simplify refund operations and enable the user to more quickly obtain a refund.

Based on the same inventive concept, the embodiments of this invention also provide an order processing device, as described in the embodiments below. Because the solution principles of the order processing device are similar to the order processing method, for the implementation of the order processing device, reference can be made to the implementation of the order processing method, and their duplicated aspects will not be restated. As used below, the terms "element" or "module" are combinations of software and/or hardware that can achieve preset functions. Even though it is preferable for the described device to be implemented through software in the following embodiments, implementation through hardware or a combination of software and hardware can also be envisioned. FIG. 6 is a structural block diagram of the order processing device of an embodiment of this invention. This order processing device is located within a third party payment institution. As shown in FIG. 6, this order processing device can comprise: an acquisition module 601 and a refund module 602. An explanation of this structure is given below.

Acquisition module 601 can be configured to obtain a paid order for which delivery by the delivering institution is unsuccessful;

Refund module 602 can be configured to actively initiate a refund operation for the paid

order for which delivery is unsuccessful.

In one implementation manner, the delivering institution can comprise a foreign airline, and delivery by the delivering institution can comprise issuance of a ticket by the delivering institution.

In one implementation manner, acquisition module 601 can be configured to query a virtual UATP card status of the paid order through UATP to obtain the order that is paid but not successfully delivered by the delivering institution.

In one implementation manner, the acquisition module can comprise: a first query element configured to at each interval of a first preset time, query through the UATP one or more orders that were paid within the first preset time but have a virtual UATP card status of an unconfirmed preauthorization; first determination element configured to use the one or more orders that were paid within the first preset time but have the virtual UATP card status of the unconfirmed preauthorization as the order that is paid but not successfully delivered by the delivering institution.

In one implementation manner, the acquisition module 601 can comprise: a determination element, which can be configured to determine whether a time since a current order is paid successfully has reached a second preset time; a second query element, which can be configured to query through UATP whether a virtual UATP card status of the current order is an unconfirmed preauthorization status, if it is determined that the second preset time has been reached; a second determination element, which can be configured to use the current order as the order that is paid but not successfully delivered by the delivering institution, if the virtual UATP card status of the current order is determined to be the unconfirmed preauthorization status.

In one implementation manner, different orders correspond to second preset times of different lengths.

In one implementation manner, the delivering institution uses browser redirection to carry out delivery operations for the paid orders.

The order processing method and device provided by this application uses active triggering by a third party payment institution to query whether a paid order has been delivered. For a paid order that has not been delivered, the third party payment institution actively triggers a refund operation, thus making it possible to quickly refund orders that need to be refunded, and solving the technical problem of overly complicated order refund flows and lengthy refund cycles in the current technologies. It achieves the technical effects of effectively shortening the refund cycle and improving the user experience.

Even though the details of this application use an order processing flow for a cross-border plane ticket as an illustration, this application can also be applied to other order processing processes, and is not limited to this alone. In actual application processes, there is no limitation to fully follow the mode mentioned to process orders. The descriptions involved in the embodiments of this application are merely some applications in certain embodiments of this application. Implementation manners that have been slightly modified, on the basis of certain standards, models, and methods, can also execute the schemes of the embodiments of this application. Of course, the same application can be achieved while conforming to other non-creative variants of the processing method steps of the embodiments of this application, for which further details will not be given.

Even though this application provides method operation steps as presented in the embodiments or flow diagrams, based on conventional or non-creative labor, more or fewer operation steps may be included. The step sequence given as an example in an embodiment is merely one of various step execution sequences, and does not represent the only execution sequence. During an actual implementation of the device or customer-end product, sequential implementation or parallel implementation is possible in accordance with the methods shown in the embodiments or accompanying drawings (e.g., a parallel processor or multithread processing environment).

The device or modules illustrated in the preceding embodiments can be achieved by a computer chip or entity, or by a product possessing certain functions. For the sake of convenience, when describing the preceding device, the functions are separately described as divided into different modules. When implementing this application, the functions of each module can be achieved in the same or multiple software and/or hardware units. Of course, a module achieving a certain function can be achieved through a combination of multiple sub-modules or sub-elements.

The methods, device, or modules in this application can be implemented by a controller through a computer-readable program code mode, achieved by any appropriate means. For example, a microprocessor or processor can be adopted as the controller, and memory can be in the form of a computer-readable medium, logic gate, switch, application specific integrated circuit (ASIC), programmable logic controller, or embedded microcontroller of computer-readable program code (e.g., software or firmware) executed by this (micro) processor. Examples of controllers include but are not limited to the following microcontrollers: ARC 625D, Atmel AT91SAM, Microchip PIC18F26K20, and Silicone Labs C8051F320. The memory controller can also be achieved as a control logic portion of

the memory. A person skilled in the art will know that, in addition to using pure computer-readable program code to implement a controller, it is also entirely possible to use logic programming for the method steps to enable a controller to achieve the same functions in the form of a logic gate, switch, application specific integrated circuit, programmable logic controller, or embedded microcontroller. Therefore, this type of controller may be viewed as a type of hardware unit, and its included apparatus used to achieve various functions can also be viewed as a structure within a hardware unit. Or it is even possible to view the apparatus used to achieve various functions as a software module for implementing the method as well as a structure within a hardware unit.

Some of the modules in the device of this application can be described in the general context of computer-executable instructions executed by a computer, such as a program module. Generally speaking, program modules comprise routines, programs, objects, components, and data structures, etc. for executing specific tasks or achieving specific data abstraction. This application can also be put into implementation in distributed computing environments. In these distributed computing environments, remote processing devices connected through a communications network are used for the execution of tasks. In a distributed computing environment, a program module can be located locally, including storage devices, and in remote computer storage media.

The preceding implementation manner descriptions make it clear that a person skilled in the art can clearly understand that this application may be achieved with the help of software plus the necessary hardware modes. Based on such an understanding, the essence of the technical scheme of this application, or the part contributing to current technologies, may be implemented in the form of a software product, and may also be implemented through a data migration implementation process. This computer software product may be stored in a storage medium, such as a ROM/RAM, magnetic disk, or optical disk, and may include a number of instructions to cause a computer device (which may be a personal computer, mobile terminal, server, or network device) to perform the methods of the embodiments, or certain parts of the embodiments, of this application.

The separate embodiments in this Description are described progressively, and it is sufficient for the embodiments to reference each other regarding their identical or similar parts. The description of each embodiment focuses on the ways differ from other embodiments. This application, in whole or in part, may be used in a vast number of general purpose or specialized computer system environments or configurations, for example, personal computers, server computers, handheld devices or portable devices, tablet devices,

mobile communication terminals, multiprocessor systems, microprocessor-based systems, programmable electronic devices, network PCs, minicomputers, mainframe computers, and distributed computing environments comprising any of these systems or devices, etc.

Even though embodiments are used to describe this application, a person having ordinary skill in the art will know that this application has a number of variations and alterations that do not depart from the spirit of this application. It is hoped that the attached Claims include these variations and alterations not deviating from the spirit of this application.

CLAIMS

1. An order processing method, wherein the method comprises:

a payment institution computer device completing a payment transaction for a user placing an order with a delivering institution computer device, wherein the delivering institution computer device uses browser redirection to redirect from payment transaction completion to order delivery, and the user's browser is prevented from redirecting to the order delivery after the payment institution computer device successfully completes the payment transaction;

the payment institution computer device generating and activating a virtual card through a virtual card payment network;

the payment institution computer device querying a virtual card status of the paid order through the virtual card payment network;

in response to determining that the paid order is not successfully delivered by the delivering institution computer device, the payment institution computer device obtaining the order that is paid but not successfully delivered by the delivering institution computer device; and

the payment institution computer device initiating a refund operation for the paid order for which delivery is unsuccessful.

2. The method according to Claim 1, wherein: the delivering institution comprises a foreign airline, and the delivering institution computer device's delivery comprises issuing a ticket.

3. The method according to Claim 2, wherein the virtual card comprises: a virtual UATP (Universal Air Travel Plan) card, and the virtual card payment network comprises a virtual UATP card network.

4. The method according to Claim 3, wherein the payment institution computer device querying a virtual card status of the paid order through the virtual card payment network comprises:

at each interval of a first preset time, the payment institution computer device querying through the virtual UATP card network one or more orders that were paid within the first preset time but have a virtual UATP card status of an unconfirmed preauthorization;

the payment institution computer device using the one or more orders that were paid within the first preset time but have the virtual UATP card status of the unconfirmed

preauthorization as the order that is paid but not successfully delivered by the delivering institution computer device.

5. The method according to Claim 3, wherein the payment institution computer device querying a virtual card status of the paid order through the virtual card payment network comprises:

the payment institution computer device determining whether a time since a current order is paid successfully has reached a second preset time;

if the second preset time has been reached, the payment institution computer device querying through the virtual UATP card network whether a virtual UATP card status of the current order is an unconfirmed preauthorization status;

if the virtual UATP card status of the current order is the unconfirmed preauthorization status, the payment institution computer device using the current order as the order that is paid but not successfully delivered by the delivering institution computer device.

6. The method according to Claim 5, wherein different orders correspond to second preset times of different lengths.

7. An order processing device disposed within a payment institution, wherein the device has at least a processor and a memory containing instructions executed by the processor, and modules and elements are achieved through the processor and memory, the device comprising:

an acquisition module configured to:

complete a payment transaction for a user placing an order with a delivering institution computer device, wherein the delivering institution computer device uses browser redirection to redirect from payment transaction completion to order delivery, and the user's browser is prevented from redirecting to the order delivery after the payment institution computer device successfully completes the payment transaction;

generate and activate a virtual card through a virtual card payment network;

query a virtual card status of the paid order through the virtual card payment network;

in response to determining that the paid order is not successfully delivered by the delivering institution computer device, obtain the order that is paid but not successfully delivered by the delivering institution computer device; and

a refund module configured to initiate a refund operation for the paid order for which delivery is unsuccessful.

8. The device according to Claim 7, wherein the delivering institution comprises a foreign airline, and the delivering institution computer device's delivery comprises issuing a ticket.

9. The device according to Claim 8, wherein the virtual card comprises a virtual UATP (Universal Air Travel Plan) card, and the virtual card payment network comprises a virtual UATP card network.

10. The device according to Claim 9, wherein the acquisition module comprises:

a first query element configured to, at each interval of a first preset time, query through the virtual UATP card network one or more orders that were paid within the first preset time but have a virtual UATP card status of an unconfirmed preauthorization;

a first determination element configured to use the one or more orders that were paid within the first preset time but have the virtual UATP card status of the unconfirmed preauthorization as the order that is paid but not successfully delivered by the delivering institution computer device.

11. The device according to Claim 9, wherein the acquisition module comprises:

a determination element configured to determine whether a time since a current order is paid successfully has reached a second preset time;

a second query element configured to query through the virtual UATP card network whether a virtual UATP card status of the current order is an unconfirmed preauthorization status, if it is determined that the second preset time has been reached; and

a second determination element configured to use the current order as the order that is paid but not successfully delivered by the delivering institution computer device, if the virtual UATP card status of the current order is determined to be the unconfirmed preauthorization status.