to the mobile device. Additionally, the server records a relationship between the payment code and a user account associated with the mobile device. The mobile device then forwards the received payment code to the wearable device and the wearable device displays the payment code. A merchant's payee device scans the payment code and sends transaction data (e.g., the payment code, the payment sum, and other transaction information) to the server. The server deducts the payment sum from the user account corresponding to the payment code and transfers the sum to the merchant's account, thereby completing the payment.

[0005] In the payment process described above, when the connection between the wearable device and the cell phone is poor, or the network performance between the cell phone and the server is poor, the wearable device generally cannot obtain the payment code or cannot display the payment code in time, resulting in failure of the payment transaction.

BRIEF SUMMARY

[0006] One aspect of the disclosure is drawn to a method for binding a wearable device. The method includes establishing providing, by the wearable device, device information of the wearable device to a terminal based on an established connection between the wearable device and the terminal, the device information including a device identification; receiving, by the wearable device, a device certificate from a server, the device certificate generated by the server based on the device identification and the device certificate corresponds to a user account associated with the wearable device; and storing, by the wearable device, the device certificate on the wearable device, the device certificate enabling the wearable device to perform a payment operation using the user account, wherein the payment operation is capable of being performed by the wearable device if the established connection between the wearable device and the terminal is not detected and wherein the payment operation comprises: generating, by the wearable device, a transaction certificate based on the device certificate; and providing, by the wearable device, the transaction certificate to a payee device.

[0007] Another aspect of the disclosure is drawn to a method for binding a wearable device. The method includes receiving, by a server, a binding request from the wearable device via a terminal, the binding request including a device identification of the wearable device and user account information associated with the wearable device; generating, by the server, a device certificate of the wearable device based on the device identification, wherein the device certificate corresponds to a user account associated with the

wearable device; storing, by the server, a relationship between the device certificate and a user account associated with the wearable device; and providing, by the server, the device certificate to the wearable device, the device certificate enabling the wearable device to perform a payment operation using the user account wherein the payment operation is capable of being performed by the wearable device if an established connection between the wearable device and the terminal is not detected.

[0008] Another aspect of the disclosure is drawn to a method for binding a wearable device. The method includes establishing, by a terminal, a connection between a wearable device and the terminal; acquiring, by the terminal, device information of the wearable device, the device information including a device identification of the wearable device; sending, by the terminal, a binding request to a server, the binding request including the device identification of the wearable device and user account information, the binding request enabling the server to generate a device certificate corresponding to a user account associated with the wearable device and provide the device certificate to the wearable device; and transmitting, by the terminal, the device certificate to the wearable device using the established connection, the device certificate enabling the wearable device to perform a payment operation using the user account wherein the payment operation is capable of being performed by the wearable device if the established connection between the wearable device and the terminal is not detected.

[0009] Another aspect of the disclosure is drawn to a method for facilitating electronic payments. The method includes receiving, by the wearable device, a device certificate corresponding to a user account associated with the wearable device from the terminal based on an established connection between the wearable device and the terminal; generating, by the wearable device, a transaction certificate according to a stored device certificate for a user account associated with the wearable device, wherein the transaction certificate is capable of being generated by the wearable device if the established connection between the wearable device and a terminal is not detected; and providing, by the wearable device, the transaction certificate to a payee device, the transaction certificate enabling the payee device to upload the transaction certificate to a server for processing a payment using the user account corresponding to the device certificate.

[0010] Another aspect of the disclosure is drawn to a method for facilitating electronic payments. The method includes receiving, by a server, a payment collection request sent by a payee device, the payment collection request including a transaction certificate generated by a wearable device and payment sum information wherein the transaction certificate is capable of being generated by the wearable device if an available connection between the wearable device and a terminal is detected; restoring, by the server, a device certificate of the wearable device from the transaction certificate; and processing, by the server, a payment according to the payment sum information using a user account corresponding to the device certificate as payer based on a relationship between the device certificate of the wearable device and the user account stored by the server.

[0011] Another aspect of the disclosure is drawn to a method for facilitating electronic payments. The method includes acquiring, by a payee device, a transaction certificate of a wearable device, the transaction certificate generated by the wearable device according to a device certificate corresponding to a user account associated with the wearable device, wherein the transaction certificate is capable of being generated by the wearable device if an available connection between the wearable device and a terminal is not detected; and sending, by the payee device, a payment collection request to a server, the payment collection request including the transaction certificate of the wearable device and payment sum information, the payment collection request being configured for allowing the server to restore the device certificate from the transaction certificate, and perform a payment operation according to the payment sum information using the user account corresponding to the device certificate.

[0012] One aspect of the disclosure is drawn to a wearable device. The wearable device includes one or more processors, and a non-transitory computer-readable medium storing computer-executable instructions. When executed by the one or more processors, the instructions cause the wearable device to establish a connection between the wearable device and a terminal; provide device information of the wearable device to a terminal, the device information including a device identification; receive a device certificate from a server, the device certificate generated by the server based on the device identification and a user account associated with the wearable device; and store the device certificate on the wearable device, the device certificate enabling the wearable device to perform a payment operation