CLAIMS

What is claimed is:

1. A method for communicating data between a host device and a target peripheral device connected to the host device, the method comprising:

receiving at least one identifier of the target peripheral device;

generating a configuration key of the target peripheral device based on the at least one identifier of the target peripheral device;

determining if the configuration key of the target peripheral device is in a look-up table, the look-up table comprising configuration keys for a plurality of peripheral devices and configuration data corresponding to each configuration key;

obtaining an interface name of a USB interface of the target peripheral device and obtaining configuration data for the target peripheral device based on the interface name of the USB interface of the target peripheral device, when the configuration key of the target peripheral device is absent in the look-up table; and

communicating data between the host device and the target peripheral device according to the configuration data for the target peripheral device.

2. The method of claim 1, wherein obtaining the interface name of the USB interface of the target peripheral device comprising:

obtaining a raw descriptor for the USB interface of the target peripheral device;

parsing the raw descriptor to obtain a string index for the USB interface; and

obtaining the interface name of the USB interface based on the string index.

3. The method of claim 2, wherein the interface name of the USB interface is obtained based on the string index using Human Interface Device (HID) instructions.

4. The method of claim 2 or 3, wherein obtaining the raw descriptor for the USB interface of the target peripheral device comprises:

applying for USB permission to access the target peripheral device to obtain the raw descriptor for the USB interface of the target peripheral device.

5. The method of any one of claims 1-4, further comprising

enumerating a plurality of USB interfaces of the target peripheral device, obtaining an interface name of each of the plurality of USB interfaces of the target peripheral device, and obtaining configuration data for the target peripheral device based on the interface names of the plurality of USB interfaces of the target peripheral device, when the configuration key of the target peripheral device is absent in the look-up table.

6. The method of any one of claims 1-5, wherein the configuration data for the target peripheral device comprises USB mode type, endpoint type, endpoint transmission size and direction of data for endpoint.

7. The method of claim 6, further comprising:

determining that the interface name of the USB interface of the target peripheral device supports haptic data.

8. The method of claim 7, further comprises:

communicating haptic data between the host device and the peripheral device.

9. The method of any one of claims 1-8, further comprising:

obtaining configuration data of the target peripheral device according to the configuration key of the target peripheral device and the look-up table, when the configuration key of the target peripheral device is in the look-up table.

10. The method of any one of claims 1-9, wherein the at least one identifier comprises vendor identification and product identification.

11. A host device configured for communicating data with a target peripheral device connected to the host device, the host device comprising:

a host interface configured to connect with the target peripheral device; and

a processor coupled to the host interface, wherein the processor is configured to:

receive at least one identifier of the target peripheral device;

generate a configuration key of the target peripheral device based on the at least one identifier of the target peripheral device;

determine if the configuration key of the target peripheral device is in a look-up table, the look-up table comprising configuration keys for a plurality of peripheral devices and configuration data corresponding to each configuration key;

obtain an interface name of a USB interface of the target peripheral device and obtain configuration data for the target peripheral device based on the interface name of the USB interface of the target peripheral device, when the configuration key of the target peripheral device is absent in the look-up table, and

communicate data between the host device and the target peripheral device according to the configuration data for the target peripheral device.

12. The host device of claim 11, wherein the processor is further configured to:

obtain a raw descriptor for the USB interface of the target peripheral device;

parse the raw descriptor to obtain a string index for the USB interface;

obtain the interface name of the USB interface based on the string index.

13. The host device of claim 12, wherein the interface name of the USB interface is obtained based on the string index using Human Interface Device (HID) instructions.

14. The host device of claim 12 or 13, wherein USB permission to access the target peripheral device is applied for to obtain the raw descriptor for the USB interface of the target peripheral device.

15. The host device of any one of claims 11-14, wherein the processor is further configured to enumerate a plurality of USB interfaces of the target peripheral device, obtain an interface name of each of the plurality of USB interfaces of the target peripheral device, and obtain configuration data for the target peripheral device based on the interface names of the plurality of USB interfaces of the target peripheral device, when the configuration key of the target peripheral device is absent in the look-up table.