WHAT IS CLAIMED IS:

1. A smart medical bracelet with triage function comprising:

a main body, comprising:

a housing with an internal accommodation space, and a surface of the housing comprising a top opening, a first bottom opening, a second bottom opening, a first side opening, and a second side opening;

a touch display panel positioned at the top opening of the housing, with a display surface of the touch display panel exposed on the housing's surface;

an optical transceiver located at the first bottom opening of the housing, with an optical transceiving surface of the optical transceiver exposed on the housing's surface;

a body temperature detector situated at the second bottom opening of the housing, with a body temperature detecting surface of the body temperature detector exposed on the housing's surface;

a local charging terminal pair placed at the second side opening of the housing and exposed on the housing's surface;

a full-color light emitting diode;

a system chip;

a first wireless communication interface electrically connected to the system chip; and

a second wireless communication interface electrically connected to the system chip; and

a strap connected to the main body, including:

a flexible light-guide on an outer surface of the strap, optically coupled with the full-color light emitting diode to guide emitted light;

wherein the smart medical bracelet with triage function is configured to:

detect instant vital signs of a user, including body temperature, through the body temperature detector or the optical transceiver, and transmit the instant vital signs to an external system through the first wireless communication interface;

communicate with the external system through the second wireless communication interface to pair with a health-insurance card of the user, the pairing being made using an identification code of the smart medical bracelet with triage function and a card number of the health-insurance card; and

receive, from the external system, information according to which a light color emitted by the full-color light emitting diode through the flexible light-guide is to be adjusted in accordance with an immediate triage status of the user; and

wherein the system chip is configured, in response to the received information, to control the full-color light emitting diode to emit through the flexible light-guide a light color corresponding to the immediate triage status.

2. The smart medical bracelet with triage function as claimed in claim 1, wherein the main body additionally comprises:

a circuit board positioned at a bottom of the internal accommodation space of the housing;

an upper surface of the circuit board comprising a battery connector and a circuit board connector;

a lower surface of the circuit board hosting the optical transceiver and the body temperature detector; and

wherein the system chip is disposed on the circuit board and electrically connected to the touch display panel, the body temperature detector, and the full-color light emitting diode.

3. The smart medical bracelet with triage function as claimed in claim 2, wherein

the first wireless communication interface comprises a wireless communication module integrated on the circuit board, the wireless communication module comprising a Wi-Fi module, a Bluetooth module, or both.

4. The smart medical bracelet with triage function as claimed in claim 2, wherein the optical transceiver comprises a light-emitting diode and a light sensor, where light from the light-emitting diode irradiates a user's wrist skin, and the light sensor detects changes in light intensity penetrating and reflecting back from the skin; and

wherein vital sign values are calculated based on the detected light intensity changes either (i) by at least one vital sign detector hosted on the circuit board, electrically connected to the system chip and the optical transceiver, and configured to calculate the vital sign values; or (ii) by the system chip, which is electrically connected to the optical transceiver and is configured to execute at least one vital sign detection program to calculate the vital sign values.

5. The smart medical bracelet with triage function as claimed in claim 4, wherein the vital sign values comprise at least one of heartbeat, blood oxygen, blood pressure and blood glucose.

6. The smart medical bracelet with triage function as claimed in claim 2, wherein the circuit board also incorporates a buzzer and a button, both electrically connected to the system chip, with the button positioned at the first side opening of the housing and exposed on the housing's surface.

7. The smart medical bracelet with triage function as claimed in claim 2, wherein the circuit board also integrates an ultra-wideband (UWB) module electrically connected to the system chip, the UWB module being configured to transmit a UWB signal, whereby a current position of the smart medical bracelet with triage function is calculable by a positioning system comprising a plurality of UWB base stations by measuring signal

propagation delay times of the same UWB signal received from the smart medical bracelet with triage function at each of the UWB base stations.

8. The smart medical bracelet with triage function as claimed in claim 1, wherein the smart medical bracelet with triage function is configured to receive a message through the first wireless communication interface and to display the message on the touch display panel.

9. The smart medical bracelet with triage function as claimed in claim 1, wherein, upon the pairing, the smart medical bracelet with triage function is configured to authorize a doctor to access medical records of the user corresponding to the health-insurance card directly from a medical information system (HIS), without requiring the health-insurance card.

10. The smart medical bracelet with triage function as claimed in claim 1, wherein the smart medical bracelet with triage function is configured to communicate with an external payment machine through the second wireless communication interface to make payments.

11. The smart medical bracelet with triage function as claimed in claim 1, wherein the smart medical bracelet with triage function is configured to communicate with an external smart medicine receiving cabinet through the second wireless communication interface to receive medicine.

12. The smart medical bracelet with triage function as claimed in claim 1, wherein, upon the pairing with the health-insurance card, the smart medical bracelet with triage function is configured to communicate with an external returning machine through the second wireless communication interface to disconnect the pairing between the health-insurance card and the smart medical bracelet with triage function.

13. The smart medical bracelet with triage function as claimed in claim 1, wherein the local charging terminal pair is positioned along a side direction of the housing, such that

the smart medical bracelet with triage function is to be placed along the side direction on a charging terminal pair of a charging base for charging.

14. A method performed by the smart medical bracelet with triage function as claimed in claim 1, the method comprising, while the smart medical bracelet with triage function is attached to a wrist of a user:

detecting instant vital signs of the user, including body temperature, through the body temperature detector or the optical transceiver, and transmitting the instant vital signs to an external system through the first wireless communication interface;

communicating with the external system through the second wireless communication interface to pair with a health-insurance card of the user, the pairing being made using an identification code of the smart medical bracelet with triage function and a card number of the health-insurance card;

receiving, from the external system, information according to which a light color emitted by the full-color light emitting diode through the flexible light-guide is to be adjusted in accordance with an immediate triage status of the user; and

controlling, by the system chip in response to the received information, the full-color light emitting diode to emit through the flexible light-guide a light color corresponding to the immediate triage status.

15. The method as claimed in claim 14, further comprising: upon the pairing, authorizing a doctor to access medical records of the user corresponding to the health-insurance card directly from a medical information system (HIS), without requiring the health-insurance card.

16. The method as claimed in claim 14, further comprising: communicating with an external returning machine through the second wireless communication interface to disconnect the pairing between the health-insurance card and the smart medical bracelet with triage function.

17. The smart medical bracelet with triage function as claimed in claim 1, wherein the second wireless communication interface comprises a near field communication (NFC) module.