WHAT IS CLAIMED IS:

1. A shelf for hanging goods, comprises:

a shelf support; and

a rack detachably mounted to the shelf support;

wherein the rack comprises:

a mounting bracket;

a weight sensing device above the mounting bracket;

a suspension bracket base above the weight sensing device; and

a suspension bracket having one end detachably mounted to the suspension bracket base；

wherein the suspension bracket base comprises:

a base body; and

a bracket clamping slot recessed on a top of the base body;

wherein the suspension bracket comprises:

a hanging rod; and

a bracket buckle at one end of the hanging rod, and detachably engaged to the bracket clamping slot.

2. The shelf for hanging goods according to claim 1, wherein the rack further comprises:

a vertical mounting plate;

a baffle protruding from an edge of the vertical mounting plate; and

a mounting plate cavity surrounded by the vertical mounting plate and at least two baffles.

3. The shelf for hanging goods according to claim 2, wherein the rack further

comprises:

a mounting plate through hole that penetrates through the vertical mounting plate and is opposite to the suspension bracket base; wherein one end of the suspension bracket is detachably mounted to the suspension bracket base through the mounting plate through hole.

4. The shelf for hanging goods according to claim 3, wherein the rack further comprises:

a mounting plate bayonet that penetrates through the vertical mounting plate and is located around the mounting plate through hole.

5. The shelf for hanging goods according to claim 2, wherein the rack further comprises:

a circuit board mounting slot in the mounting plate cavity; and

a circuit board detachably mounted in the circuit board mounting slot; wherein the circuit board is provided with a communication interface and is connected to a server;

wherein the weight sensing device is connected to the circuit board by a wire, and real-time sensing data is sent to the server through the communication interface.

6. The shelf for hanging goods according to claim 2, wherein the mounting bracket is fixedly mounted into the mounting plate cavity; and both ends of the mounting bracket are connected to two opposite baffles, respectively.

7. The shelf for hanging goods according to claim 1, wherein a bottom surface of one end of the weight sensing device is connected to the mounting bracket, and a gap exists between a bottom surface of the other end of the weight sensing device

and the mounting bracket.

8. The shelf for hanging goods according to claim 7, wherein the rack further comprises:

a gasket between the bottom surface of one end of the weight sensing device and a top surface of the mounting bracket.

9. The shelf for hanging goods according to claim 8, wherein the bracket buckle comprises:

a first card plate inserted into the bracket clamping slot;

a second card plate that is parallel to the first card plate and fixedly coupled to the hanging rod; and

a connecting plate having one end connected to the first card plate and the other end connected to the second card plate.

10. The shelf for hanging goods according to claim 2, further comprises:

a second suspension bracket detachably engaged to the vertical mounting plate.

11. The shelf for hanging goods according to claim 3, further comprises:

a second suspension bracket detachably mounted to the vertical mounting plate;

wherein the second suspension bracket comprises:

a second hanging rod;

a second baffle at one end of the second hanging rod and opposite to the mounting plate through hole;

a second racket buckle protruding from a surface of the second baffle toward a side of the mounting plate through hole, and detachably engaged to the

mounting plate bayonet; and

a second baffle through hole penetrating the second baffle; wherein when the second racket buckle snap fits into the mounting plate bayonet, the hanging rod of the suspension bracket passes through the second baffle through hole.

12. The shelf for hanging goods according to claim 11, wherein the second suspension bracket further comprises:

a cross-bar perpendicularly connected to one end of the second hanging rod that is far away from the second baffle; and

an identification board that is rotatably or fixedly mounted to the cross-bar.

13. The shelf for hanging goods according to claim 2, wherein the shelf support further comprises:

a bracket body that is a rectangular cuboid set in vertical; and

at least one bracket bayonet recessed and evenly distributed on a side wall of the bracket body;

wherein the rack comprises:

at least one clamping claw at one end edge of the vertical mounting plate and detachably clamped to the bracket bayonet.

14. The shelf for hanging goods according to claim 13, wherein the shelf support further comprises:

a first connector having two ends detachably connected to top ends of two bracket bodies, respectively; and/or

a second connector having two ends detachably connected to lower ends of the two bracket bodies, respectively; and/or

at least one connecting plate, having two ends detachably connected to the

two bracket bodies, respectively.