Claims

1. A computer mouse comprising:

a height sensor structure configured to provide a height output indicative of whether a gap between the computer mouse and a reference surface is larger than a threshold value, the reference surface being a surface on which the computer mouse is placed on for operating the computer mouse;

a control circuit configured to control tracking of a movement of the computer mouse in a plane defined by the reference surface, based on the height output, such that the movement of the computer mouse is not tracked when the gap is larger than the threshold;

a motion detector configured to provide a detector output indicative of a direction of a vertical motion of the computer mouse relative to the reference surface; and

an adjustment circuit configured to adjust the threshold value based on the detector output; characterized in that:

wherein the adjustment circuit is configured to adjust the threshold value to a first value when the direction of the vertical motion is upward from the reference surface, and wherein the adjustment circuit is further configured to adjust the threshold value to a second value when the direction of the vertical motion is downward to the reference surface, the second value being lower than the first value and the second value being such that tracking does not start before the computer mouse is placed on the reference surface.

2. The computer mouse of claim 1, wherein the height output is generated only when the gap between the computer mouse and the reference surface is larger than the threshold value.

3. The computer mouse of any one of claims 1 to 2, further comprising a tracking sensor structure configured to track the movement of the computer mouse in the plane defined by the reference surface.

4. The computer mouse of claim 3, wherein the height sensor structure comprises the tracking sensor structure.

5. The computer mouse of any one of claims 3 to 4, wherein the control circuit is configured to control tracking of the movement of the computer mouse by controlling the tracking sensor structure.

6. The computer mouse of claim 5, wherein the control circuit is configured to deactivate the tracking sensor structure when the gap between the computer mouse and the reference surface is larger than the threshold value.

7. The computer mouse of any one of claims 1 to 6, further comprising:

a transmission circuit configured to transmit data to a computing system, the data comprising the movement of the computer mouse in the plane defined by the reference surface.

8. The computer mouse of claim 7, wherein the control circuit is configured to control the transmission circuit to deactivate transmission of the data when the gap between the computer mouse and the reference surface is larger than the threshold value.

9. The computer mouse of claim 7, wherein the control circuit is configured to deactivate the transmission circuit when the gap between the computer mouse and the reference surface is larger than the threshold value.

10. The computer mouse of any one of claims 1 to 9, wherein the motion detector comprises at least one of an accelerometer and the height sensor structure.

11. The computer mouse of any one of claims 1 to 10, wherein each of the first value and the second value is user-customizable through a user interface.

12. The computer mouse of claim 11, wherein the user interface is provided on at least one of the computer mouse or a computing system coupled to the computer mouse.

13. The computer mouse of any one of claims 1 to 12, further comprising:

a memory configured to store the threshold value.

14. The computer mouse of any one of claims 1 to 13, wherein the computer mouse is coupled to a computing system, the threshold value being stored in the computing system.

15. The computer mouse of any one of claims 1 to 14, wherein at a next time frame, the height sensor structure is configured to provide a next height output, based on whether the gap between the computer mouse and the reference surface is larger than the adjusted threshold value.

16. A method for providing an input to a computing system, the method comprising:

providing a height output indicative of whether a gap between a computer mouse and a reference surface is larger than a threshold value, the reference surface being a surface on which the computer mouse is placed on for operating the computer mouse;

controlling tracking of a movement of the computer mouse in a plane defined by the reference surface, based on the height output, such that the movement of the computer mouse is not tracked when the gap is larger than the threshold;

providing a detector output indicative of a direction of a vertical motion of the computer mouse relative to the reference surface; and

adjusting the threshold value based on the detector output; characterized in that:

wherein adjusting the threshold value based on the detector output comprises adjusting the threshold value to a first value when the direction of the vertical motion is upward from the reference surface, and adjusting the threshold value to a second value when the direction of the vertical motion is downward to the reference surface, the second value being lower than the first value and the second value being such that tracking does not start before the computer mouse is placed on the reference surface.

17. The method of claim 16, wherein controlling tracking of the movement of the computer mouse in the plane defined by the reference surface based on the height output comprises inhibiting tracking of the movement of the computer mouse in the plane defined by the reference surface when the gap between the computer mouse and the reference surface is larger than the threshold value.

18. The method of any one of claims 16 to 17, further comprising:

transmitting data to the computing system, the data comprising the movement of the computer mouse in the plane defined by the reference surface.

19. The method of claim 18, wherein controlling tracking of the movement of the computer mouse in the plane defined by the reference surface based on the height output comprises inhibiting transmission of the data when the gap between the computer mouse and the reference surface is larger than the threshold value.

20. A non-transitory computer readable medium storing a program executable to cause a processor to execute the method of any one of claims 16 to 19.