

CLAIMS

1. A gesture recognition device comprising:
 - a sensor configured to determine position information of a user of the gesture recognition device;
 - a progress determination circuit configured to determine whether at least a pre-determined portion of a gesture was performed by the user based on the position information;
 - a database configured to store information indicating a plurality of pre-determined gestures; and
 - a gesture determination circuit configured to determine the gesture based on the at least pre-determined portion of the gesture matching a stored pre-determined gesture in the database when the gesture is only partially formed.
2. The gesture recognition device of claim 1,
 - wherein the gesture determination circuit is further configured to trigger both a primary action for an operating system and a secondary action for an application.
3. The gesture recognition device of claim 2,
 - wherein the gesture determination circuit is further configured to determine the gesture based on a probability that the at least pre-determined portion of the gesture and the determined gesture match.
4. The gesture recognition device of any one of claims 1 to 3, further comprising:
 - a transmitter configured to transmit information indicating the gesture determined based on the at least pre-determined portion of the gesture.
5. The gesture recognition device of any one of claims 1 to 4,
 - wherein the progress determination circuit is further configured to determine whether the user has completed a gesture.

6. The gesture recognition device of any one of claims 1 to 5, further comprising:
a transmitter configured to transmit information indicating the gesture determined based on the at least pre-determined portion of the gesture;
wherein the transmitter is further configured to transmit a revoke indication indicating that the gesture determined based on the at least pre-determined portion of the gesture from the database and the completed gesture by the user do not match if the gesture determination circuit determines that the gesture determined based on the at least pre-determined portion of the gesture and the completed gesture do not match.
7. The gesture recognition device of any one of claims 1 to 6, further comprising:
a transmitter configured to transmit information indicating the gesture determined based on the at least pre-determined portion of the gesture;
wherein the transmitter is further configured to transmit a confirmation indication indicating that the gesture determined based on the at least pre-determined portion of the gesture from the database and the completed gesture by the user match if the gesture determination circuit determines that the gesture determined based on the at least pre-determined portion of the gesture and the completed gesture match.
8. The gesture recognition device of any one of claims 1 to 7,
wherein the sensor comprises at least one of a depth sensor, a camera, a three dimensional scanner, a three dimensional camera, or a distance sensor.
9. The gesture recognition device of any one of claims 1 to 8,
wherein the gesture recognition device is provided on a head mounted display or in a head mounted display.
10. The gesture recognition device of any one of claims 1 to 9,

wherein the gesture determination circuit is further configured to determine whether a keying gesture was performed, wherein the keying gestures comprise a small set in the database; and

wherein the gesture determination circuit is further configured to determine based on the keying gesture a set of candidate gestures for subsequent gesture determination.

11. The gesture recognition device of claim 10,
wherein the keying gesture comprises at least one gesture selected from a thumbs up gesture, a closed fist gesture or a peace sign gesture.

12. A gesture recognition method comprising:
determining position information of a user of the gesture recognition device using a sensor;

storing information indicating a plurality of pre-determined gestures in a database;
determining whether at least a pre-determined portion of a predetermined gesture was performed by a gesture of the user based on the position information using a progress determination circuit; and

determining the gesture based on the at least pre-determined portion of the gesture when the gesture matches a stored pre-determined gesture in the database using a gesture determination circuit when the gesture is only partially formed.

13. The gesture recognition method of claim 12, further comprising:
determining the gesture based on a probability that the at least pre-determined portion of the gesture and the determined gesture match; and
transmitting information indicating the gesture determined based on the at least pre-determined portion of the gesture.

14. The gesture recognition method of any one of claims 12 to 13, further comprising:
configuring the gesture determination circuit to trigger both a primary action for an operating system and a secondary action for an application.

15. The gesture recognition method of any one of claims 12 to 14, further comprising:
determining whether the user has completed a gesture.
16. The gesture recognition method of claim 15, further comprising:
determining whether the gesture determined based on the at least pre-determined portion of the gesture and the completed gesture match.
17. The gesture recognition method of claim 16, further comprising:
transmitting information indicating the gesture determined based on the at least pre-determined portion of the gesture; and
transmitting a revoke indication indicating that the gesture determined based on the at least pre-determined portion of the gesture and the completed gesture do not match if it is determined that the gesture determined based on the at least pre-determined portion of the gesture and the completed gesture do not match.
18. The gesture recognition method of any one of claims 16 to 17, further comprising:
transmitting information indicating the gesture determined based on the at least pre-determined portion of the gesture; and
transmitting a confirmation indication indicating that the gesture determined based on the at least pre-determined portion of the gesture and the completed gesture match if it is determined that the gesture determined based on the at least pre-determined portion of the gesture and the completed gesture match.
19. The gesture recognition method of any one of claims 12 to 18,
wherein the use of the sensor for determining the position information comprises using at least one of a depth sensor, a camera, a three dimensional scanner, a three dimensional camera, or a distance sensor.
20. The gesture recognition method of any one of claims 12 to 19,

wherein the gesture recognition method is performed using at least one of a sensor or a camera mounted on a head mounted display or in a head mounted display.