

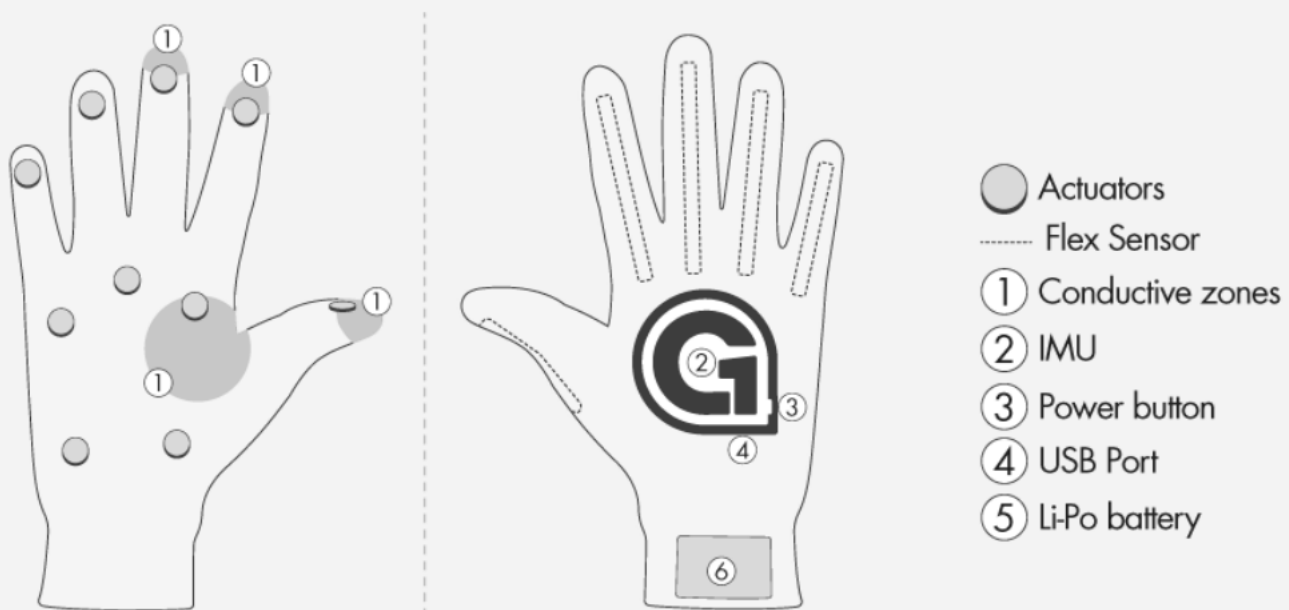
User guide

1. Gloveone components

Gloveone can have the appearance of a normal glove, but its interior is composed by different components, all of them controlled by the circuit situated inside the box.

Gloveone can be separated in the following parts:

- **Actuators:** Gloveone contains ten actuators distributed one for each fingertip, and other five over the palm of the hand.
- **Conductive fabric:** this fabric, that is situated over certain fingertips (thumb, index and middle) and in the palm, allows users to make gestures, like pinch, in an accurate and reliable way.
- **IMU sensor:** Inertial Measurements Unit allows users to know the rotation and acceleration of the glove in real time. Can be useful to do sensor fusion with other sensor (like Leap Motion) or just to use it independently.
- **Li-Po battery:** Needed to make the Gloveone work. It can be charged by the USB connector situated on the box.



2. Requirements

Gloveone need the following software and hardware requirements to work properly:

Software:

- Windows 8.1 operating system*

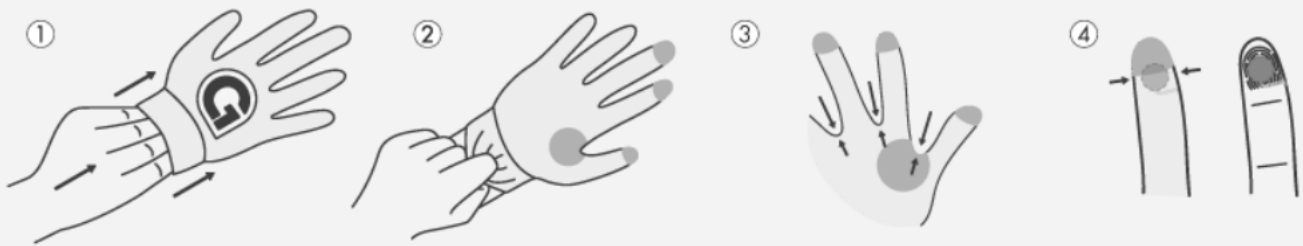
Hardware:

- 1 x USB 2.0 port or higher
- 1 x Bluetooth 2.1 adapter or higher

*Rest of needed libraries and drivers are installed within the ND Suite installer.

3. Instructions. Put the Gloveone on

Due to the fact that Gloveone is in a prototype state, the followings instructions are needed to put the glove on in a correct way:



1. Put on Gloveone carefully trying not to damage the wires inside the glove. For that, keep the hand as compact as possible when searching for the fingers holes.
2. Push gently between the fingers and adjust the glove to them. This step is extremely important to enhance Leap Motion hand recognition.
3. From the glove's wristband, pull the fabric carefully until it is completely extended on the hand. Avoid pulling from the top side of the glove where the battery is installed.
4. Make sure the actuators are placed over the first phalanx to get good haptic feedback. Actuators must be in total contact with fingertips in order to transmit the right sensation

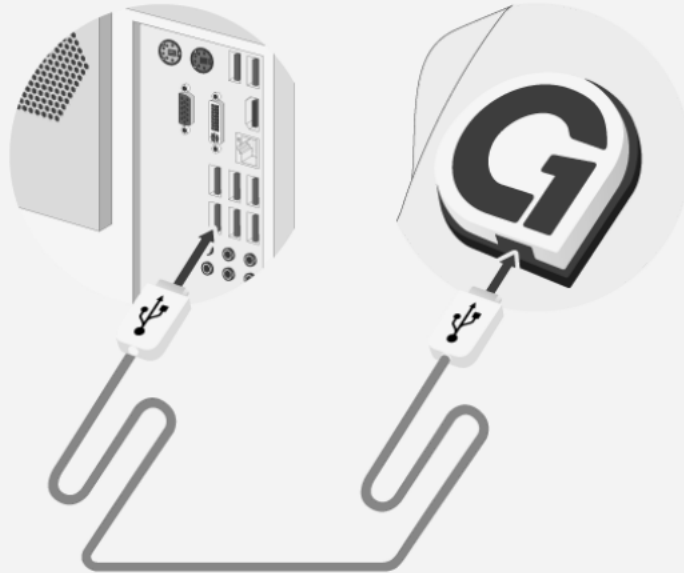
4. Gloveone connections

Once Gloveone Manager is installed on the system, a Gloveone device can be connected to the computer by two different modes, via USB or Bluetooth:

- **USB Mode:** To connect Gloveone using this mode, just turn on the glove, wait until the led is blinking and plug in by USB. If all went ok, the glove will appear in the Gloveone Manager.

NOTE: To ensure Gloveone is correctly detected by the computer, it is highly recommended to connect it through a **USB direct connection** to the computer, not using a USB hub. In the same way, it is also recommended **not to use any USB extension cable**.

- **Bluetooth Mode:** To connect Gloveone using this mode, first thing to do is to pair the glove with the computer. **Note that this process is needed to be done only once.**



The pairing process needed to connect Gloveone through a bluetooth connection is explained in next section.

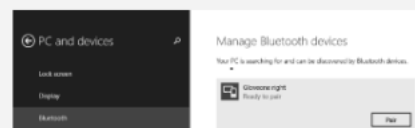
5. Pairing process

Following steps are needed to perform the pairing process to connect Gloveone through a bluetooth connection:

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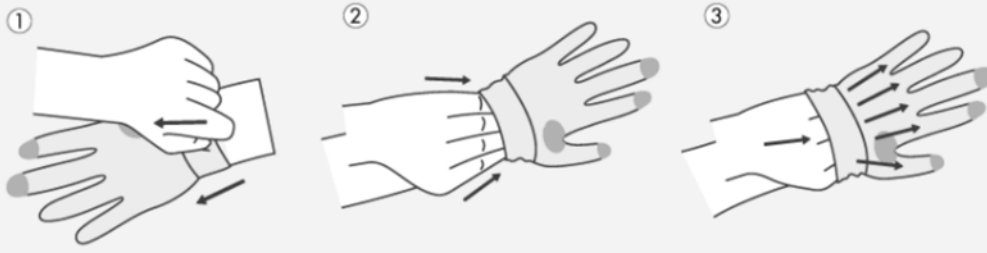
1. Do the “pinch” gesture for 2 seconds. You will see a pink light blinking while you are doing the gesture. A short vibration and a fixed darker pink light confirm that the Bluetooth is visible.

2. Open the Bluetooth configuration. Gloveone should appear as a new visible device. Add Gloveone and wait for the pairing process.

When Gloveone is paired and connected, the light will be in a fixed green status

6. Instructions. Take the Gloveone off

Following instructions are needed to put the glove off without causing any damage to Gloveone :



1. Pull the wristband, just a little bit, from the top and the back of the hand in order to help for the next step.
2. Insert the bare hand's fingers sliding down under the fabric of Gloveone's palm until you reach the beginning of the other fingers. Once at this point, you just have to keep pushing and sliding while you follow the fingers until you reach the fingertips.
3. Be patient. This is the most critical step and you must be very careful not to damage the glove electronics. Keep your hand in the previous position, whilst carefully removing Gloveone