

Modifying an LED light for Wii smartboard use

This tutorial illustrates how a commercial LED light can be easily modified to be used with the wii smartboard tools.

Tools!

Useful tools to have on hand:

1. Helping hands
2. Desoldering tool
3. Cutting pliers
4. Soldering iron
5. Solder
6. Infra-red LEDs (abt USD0.50 each)
7. Screw drivers



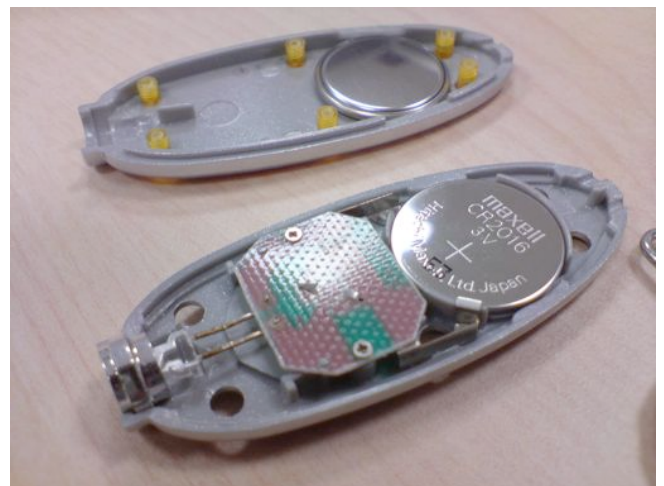
Getting any commercially available LED light

Try to get something with easily replaceable batteries, and of course something you can disassemble!



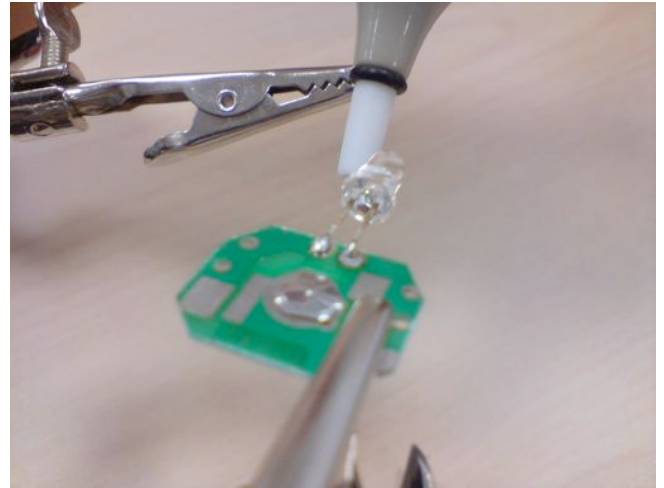
Cracking open the LED light

You can see that this LED light has the switch assembly and the light on a separate board. This particular model is powered by 2 CR2016 batteries.



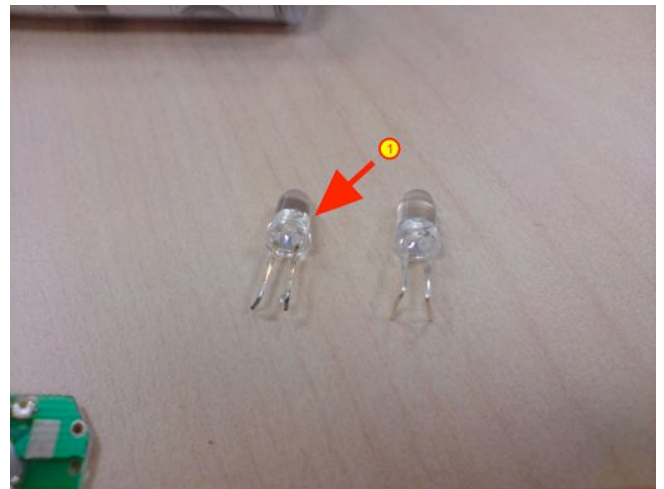
Removing the existing LED

I try to use the 'helping hands' often. I find that it helps me prevent soldering iron burns :-). A good desoldering tool helps to remove solder cleanly, as you can see in the diagram above.



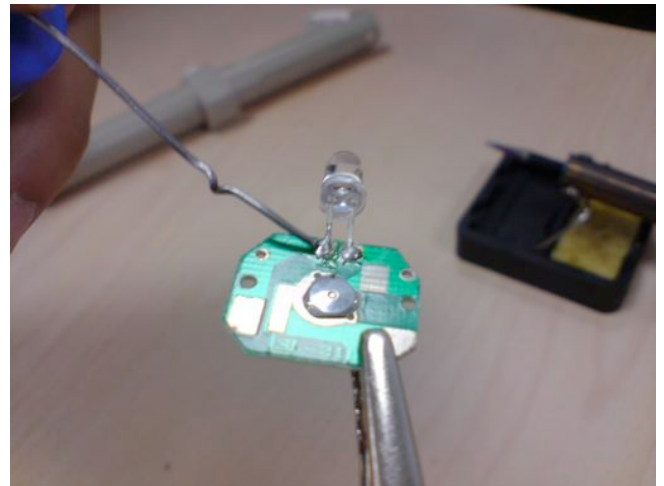
Bending the leads the right way

LEDs have positive and negative leads. Generally the positive end has a smaller (1) contact inside the LED 'bulb'. At this point, I just try to emulate the existing LED with the infra-red one, including bending the legs at the same lengths.



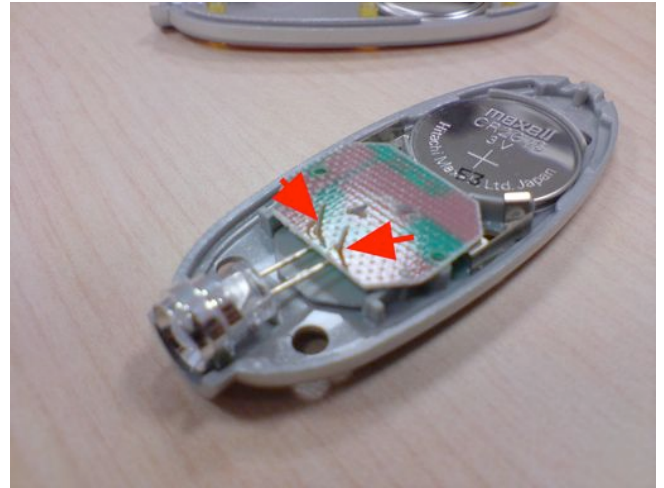
Solder on the infra-red LED

Solder on the new infra-red LED



Cleaning up

Remember to clip off any excess leads!



Reassemble and test

Remember that infra-red light is invisible to the naked eye, but most webcams can see the light just fine. In this case I am using the iSight camera on my Macbook Pro.

