

Wiimote Whiteboard

Wiimote Whiteboard is a program that uses the infrared camera in a Wiimote controller to see an infrared light held by a computer screen, then move the mouse to that spot. This means that you can use your mouse just by pointing at your computer screen.

You'll need:

A Wiimote
(also called a Wiiremote, or a Wii controller)

A computer with Bluetooth
(the laptops have Bluetooth, but you might need to fight with your administrator to get it enabled)

Something that gives off infrared light

Infrared Lights

You'll probably need to make your own infrared light. An infrared light is a thing that you point at the screen to tell Wiimote Whiteboard where to put the mouse. It gives off infrared light that the Wiimote can see. To build one you'll need a few things. One is an infrared led; if you have trouble finding somewhere that sells these, you can get one out of a remote control. You'll also need a momentary push button switch that will turn on the led when you want to click somewhere or move the mouse. There's a good diagram of a pen-shaped infrared light [here](#). I've made instructions on how to make a pointer shaped infrared light which can be found [here](#).

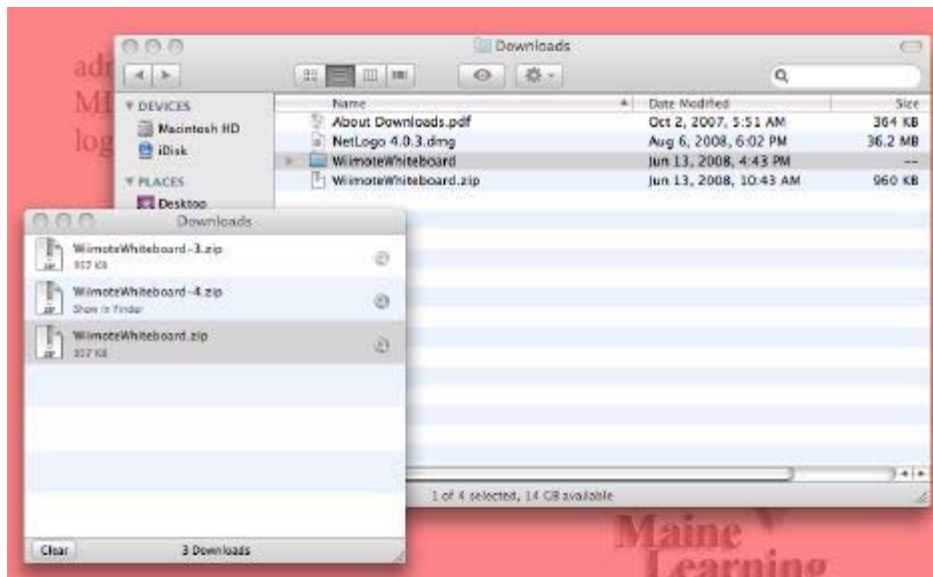
Downloading Wiimote Whiteboard

The program can be downloaded [here](#). Scroll down to where it says "Download" and click where it says "Cross-platform Java version".



[Download \(0.9.7\)](#)

The program will be downloaded. A small window will pop up labeled downloads and there will be a file labeled WiimoteWhiteboard.zip. Double click on this, and it will bring you to another, larger window labeled downloads that will also have something called WiimoteWhiteboard.zip. Double click on that, and a folder labeled Wiimote Whiteboard will appear in the larger downloads window. Drag this folder onto your desktop.



Opening Wiimote Whiteboard and Connecting the Wiimote

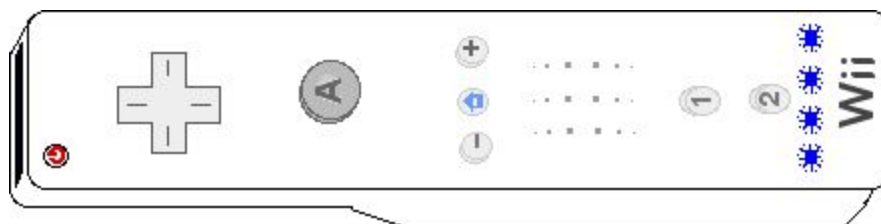
To open the program, first open the folder labeled Wiimote Whiteboard. There will be quite a few things in the folder, but you want the one called WiimoteWhiteboard.jar. Double click on this one to open it. Make sure that Bluetooth is on.

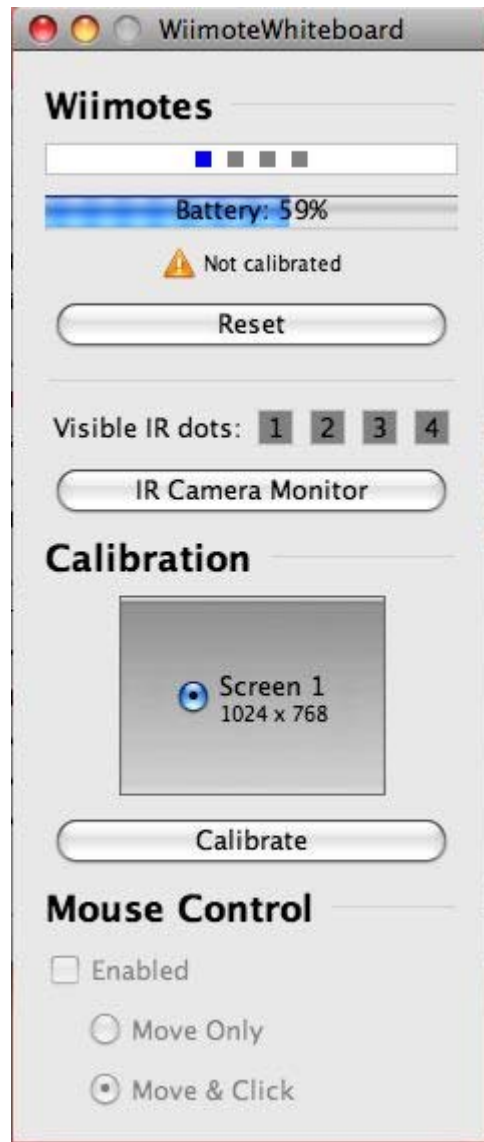


A little window will pop up.

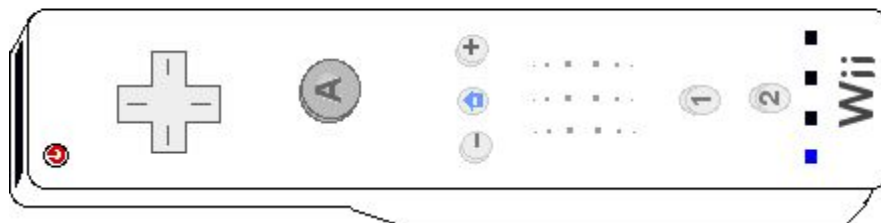


Now, you want to get out your Wiimote. Press and hold buttons 1 and 2. The four blue lights on the bottom should start to flash.





When the Wiimote is connected, it will look like the picture above and the the first light at the bottom of the Wiimote will be on.



If the Wiimote won't connect

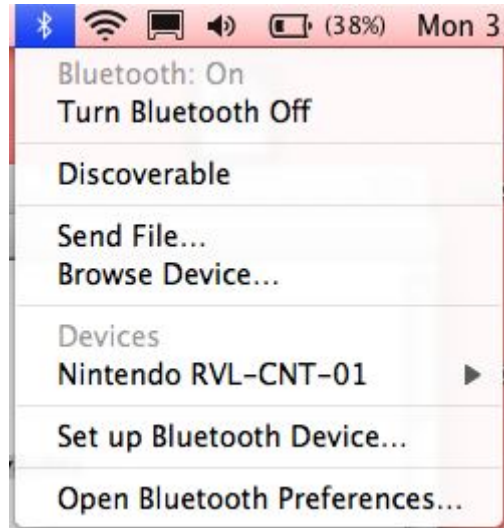
If you get something like this when you try to connect your Wiimote:

A screenshot of a Mac OS X log window titled "WiimoteWhiteboard Log". The log contains the following text:

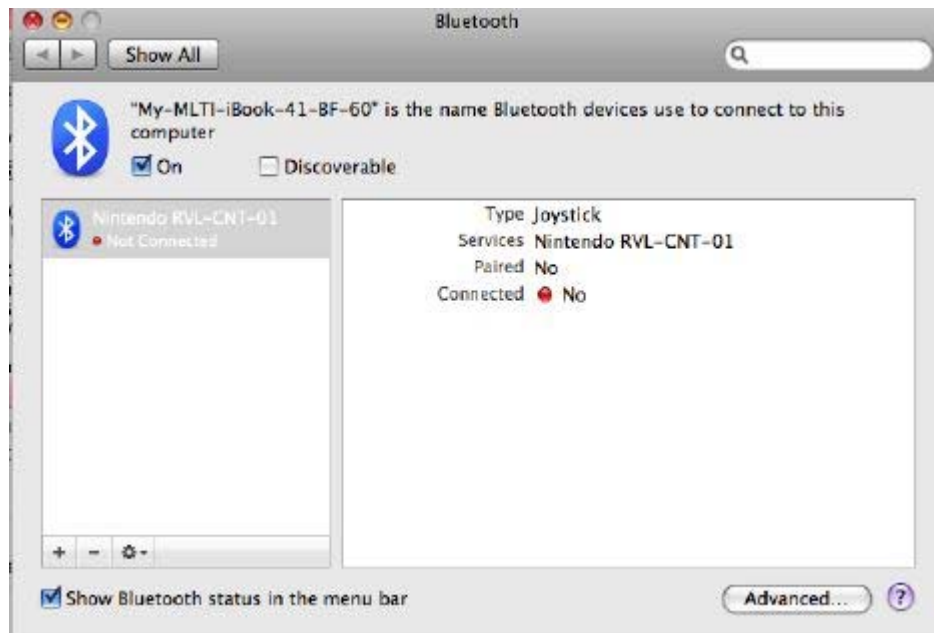
```
INFO 15:19:40 Calibration Event: SCREEN_CHANGED
FINE 15:20:00 WiiRemoteJ: Found Nintendo RVL-CNT-01 (001EA97DBD18)
FINE 15:20:00 WiiRemoteJ: Nintendo RVL-CNT-01 is a WiiRemote.
INFO 15:20:01 WiiRemoteJ: bt12cap://001EA97DBD18
SEVERE 15:20:02 WiiRemoteJ: Error getting device!
java.io.IOException: WiiRemote failed to connect!
```

```
INFO 15:19:40 Calibration Event: SCREEN_CHANGED
FINE 15:20:00 WiiRemoteJ: Found Nintendo RVL-CNT-01 (001EA97DBD18)
FINE 15:20:00 WiiRemoteJ: Nintendo RVL-CNT-01 is a WiiRemote.
INFO 15:20:01 WiiRemoteJ: bt12cap://001EA97DBD18
SEVERE 15:20:02 WiiRemoteJ: Error getting device!
java.io.IOException: WiiRemote failed to connect!
at wiiremotej.WiiRemote.construct(WiiRemote.java:301)
at wiiremotej.WiiRemote.<init>(WiiRemote.java:214)
at wiiremotej.WiiRemoteDiscoverer.getWiiRemote(WiiRemoteDiscoverer.java:94)
at wiiremotej.WiiRemoteJ.findRemote(WiiRemoteJ.java:208)
at wiiremotej.WiiRemoteJ.access$100(WiiRemoteJ.java:22)
at wiiremotej.WiiRemoteJ$2.run(WiiRemoteJ.java:284)
```

Then you want to click on the little Bluetooth icon at the top of the screen.



Click on Open Bluetooth Preferences.

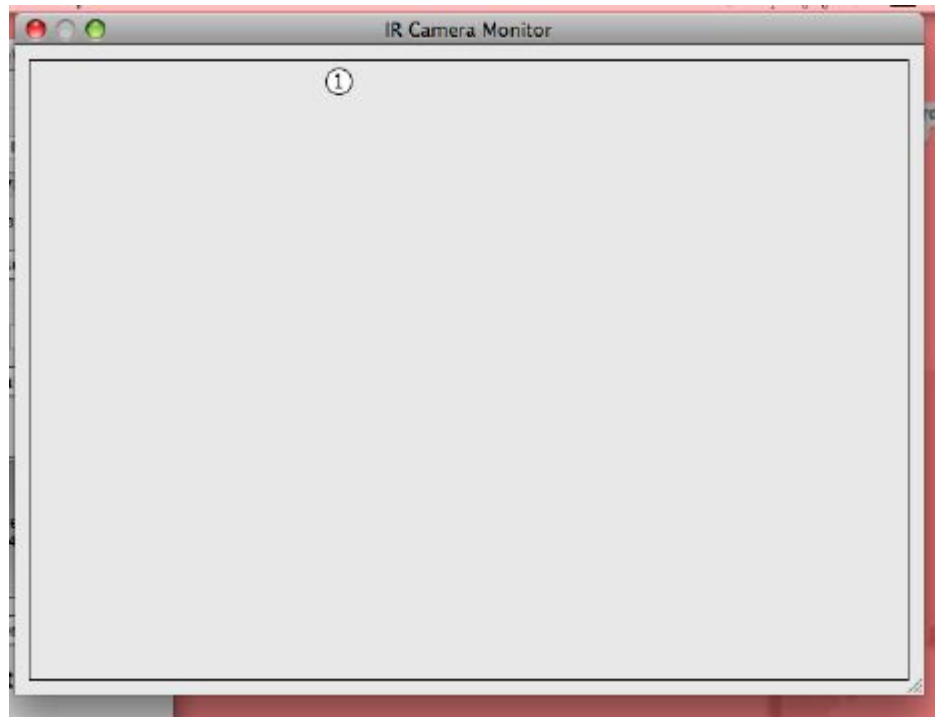


On the left part of the window, select anything that says Nintendo RVL-CNT. Then click on the minus button to remove that device. Go back to Wiimote Whiteboard and try connecting the Wiimote again. It should work this time. You'll probably have to do this almost every time you open Wiimote Whiteboard, especially if you just closed it and are trying to open it again.

Positioning the Wiimote

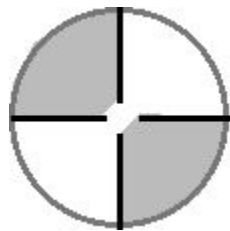
Now that the Wiimote is connected, you want to position it so that it can see the entire screen. The camera at the end of the Wiimote has a field of view of about 45 degrees.

If you want to check if the Wiimote can see all the corners of the screen, you can use the ir camera monitor. This will show you what the wiimote sees. Move around your infrared light to make sure the wiimote can see all the corners of the screen.



Calibrating the Wiimote

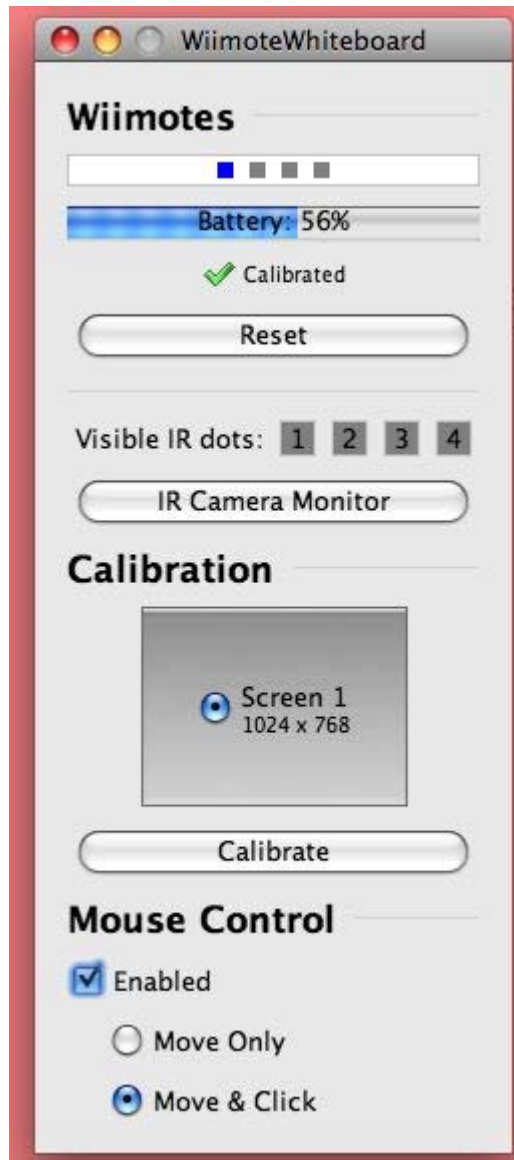
Now that you have your Wiimote positioned, you want to calibrate it. This tells Wiimote Whiteboard where the edges of your screen are. To move the mouse, Wiimote Whiteboard will compare where the infrared dot is to where the four calibration points are and move your mouse to that spot. To calibrate, click on the calibrate button. The screen will turn white and in the top left corner a little circle will appear that looks a little like this.



Point your infrared light at the center of the circle and turn it on. If you're using a pen shaped infrared light, you should point the led at the end towards the screen. The Wiimote will pick up the reflection of the light on the screen. If you're using a pointer shaped infrared light, you want to have the led facing towards the Wiimote. The Wiimote will see the light coming off the led. When the Wiimote sees the dot, the circle will change and look like this.



If the Wiimote doesn't see the dot, make sure that the Wiimote can see the edges of the screen. Also make sure that you aren't blocking the Wiimote's view of the screen. If it isn't any of those things, make sure that the infrared light is working. If you want to exit the calibration without calibrating, hit the esc key.

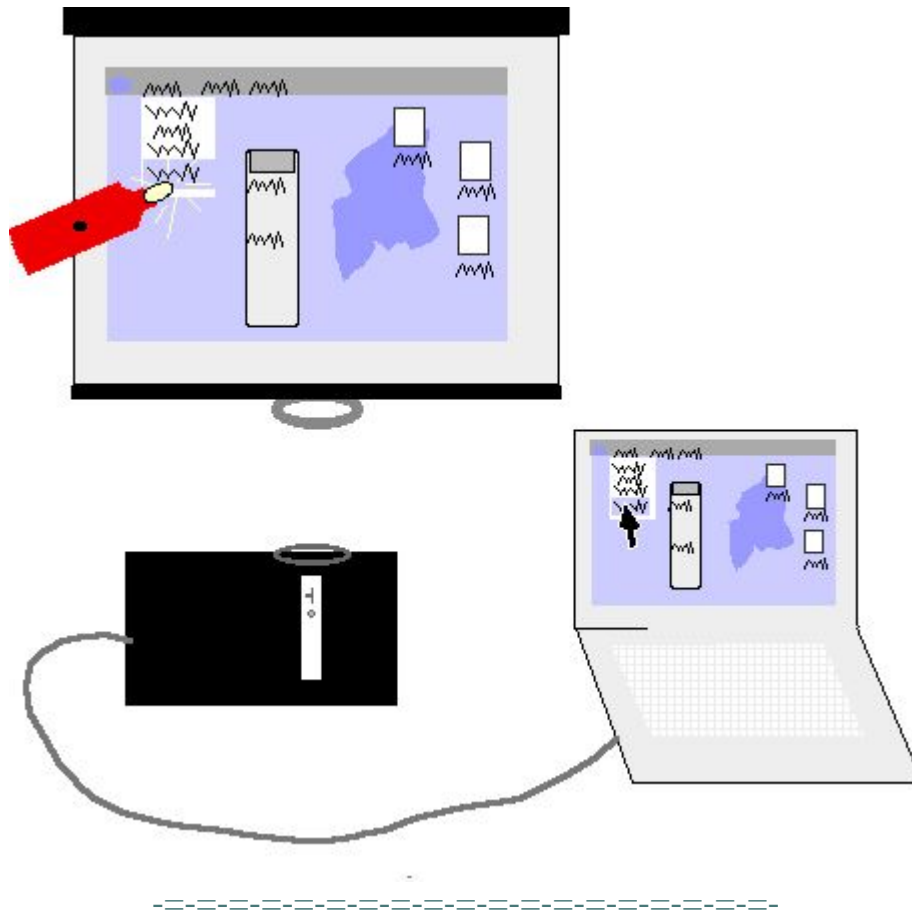


Using Wiimote Whiteboard

When you're done calibrating, you can use your infrared light as a mouse. Under Mouse Control there are two options, move only, and move and click. With move only, Wiimote Whiteboard will move the mouse to the infrared light, but it won't click anywhere. With move and click, Wiimote Whiteboard will move the mouse to the infrared light and click. Holding the mouse in one spot for a few seconds will left click. You can get more options on how to move the mouse by clicking on Wiimote Whiteboard at the left top corner of the screen and clicking on preferences.

Wiimote Whiteboard With a Projector (works great!)

So using Wiimote Whiteboard with your computer screen is pretty cool, but there isn't really a lot you could use it with that wouldn't be easier with a traditional mouse, except maybe drawing things in a paint program. What's useful about Wiimote Whiteboard is that you don't need to be very close to your computer at all. You can use it with a projector. If you connect your computer to a projector, point the Wiimote at the projected image (be sure it can see the whole screen), then calibrate it, you can control your mouse by pointing at the projected image. This is useful for giving presentations, because you don't need to run to your laptop every time you need to click on something. Instead, you can point to the projected image with your infrared light.



Handy Movie

If you're still unsure of how to use Wiimote Whiteboard, there's a movie [here](#) that shows someone using it (they're using a slightly different version for windows, but really the only difference is that the version you're using can't use two pens at once).