

CS110 Introduction to Computing

Laboratory Exercise 1

Tuesday, January 29, 2008

The Scribbler



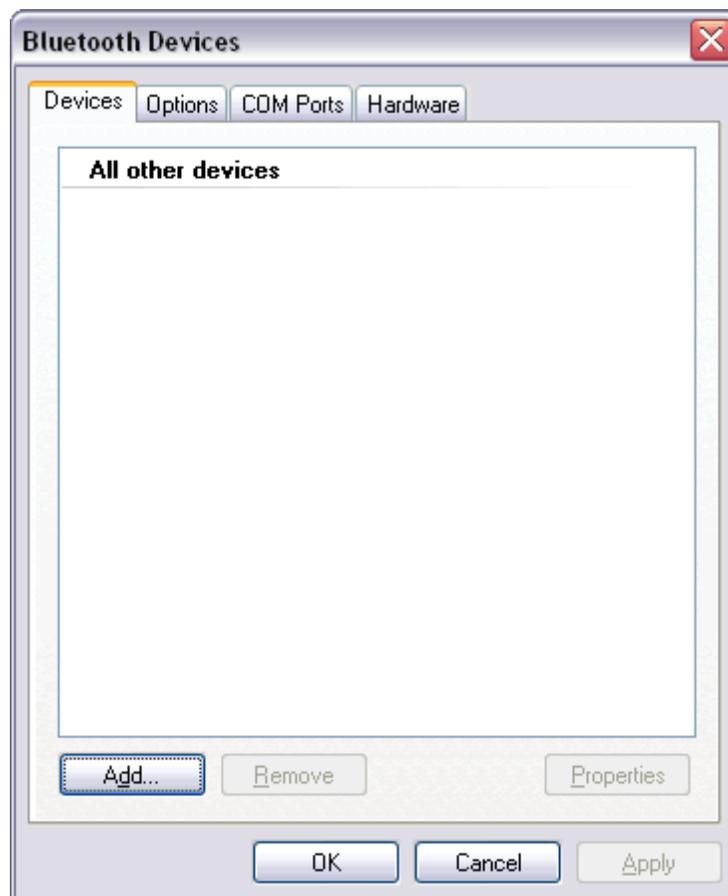
Today, you will get your Scribbler Robot Kit. Each kit contains the following items:

1. The Scribbler Robot
2. The Fluke Dongle
3. The Bluetooth Dongle (This is the USB key stuck on top of your robot)
4. A GamePad Controller
5. 6 AA batteries (already inserted in your robot)
6. 4 color permanent marker pens
7. A flashlight
8. A carrying case for your kit

Make sure that all of these parts are present in your kit. If anything is missing, or you are having trouble identifying something, please call your instructor to help you.

Step 1. Note the number on the Fluke: You Fluke dongle has a barcode with a number on it (a 6-digit number). You will need this number to create the connection to the computer. Write this number on your notebook. Also, using a Sharpie, write it down on the inside cover of your carry case, as well as on the underside of the robot itself, and on the Bluetooth dongle. This will also ensure that all your parts are accountable. In case they get misplaced, we will be able to trace them back to you. We will also note this number in our records. As an example, we will use the number: **125802**.

Step 2. Configure Bluetooth dongle: Detach the Bluetooth dongle from your robot (it is stuck using Velcro tape) and remove its cap. Put the cap in a safe place in your carrying case. Locate an available USB port on your computer. The port may be in the front or on the back panel of the computer. Insert the Bluetooth dongle into the USB port. Your computer will announce that it has found a new device. Open the **Bluetooth Devices** configuration window (you can do this by double clicking on the Bluetooth logo on your computer screen (look in the bottom right hand corner). Alternately you may have to navigate to the **Settings --> Control Panel** and select **Bluetooth Devices**. The following window should appear:

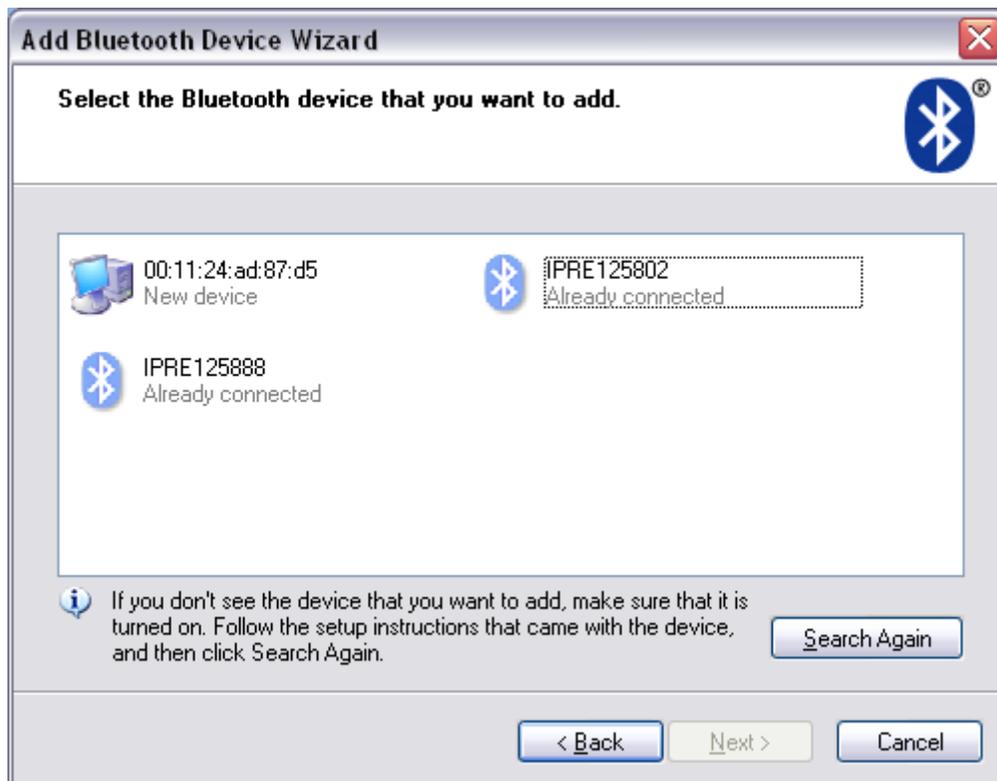


The window above shows the current Bluetooth devices available. In the case above there are none. You may see many on the computers in the lab. Next you will add a new Bluetooth device to this. Go ahead and press your mouse on the **ADD** button.

You will get a window from the **Add Bluetooth Device Wizard**:

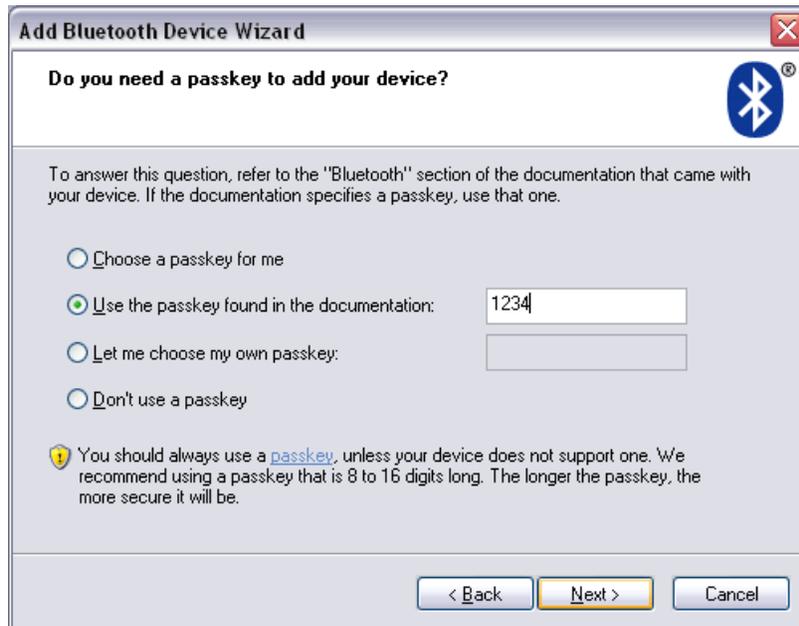


Do as directed above, turn the robot on, and make sure the checkbox is selected (see above) and then press the **Next** button. The window shown below will appear. Your computer is going to go looking for all the available Bluetooth signals and report back whatever it finds. Below, you can see that it has found **IPRE125802**.



Any other Bluetooth devices available will also be displayed above. For example, if you are in the lab with other students, you will also see their robots (for example, IPRE125888 is also visible). Locate the Scribbler by the number of your robot (in this case IPRE125802) and select it in the window above. Then press the **Next** button.

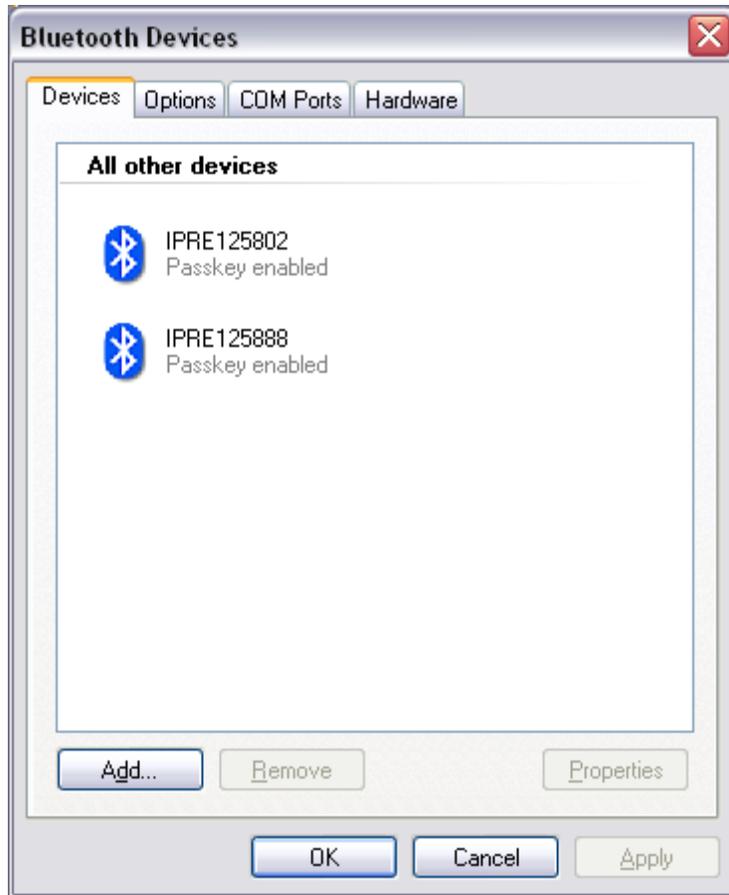
The next window that appears will ask for a **passkey**. This is shown below:



In the above window, select the **"Use passkey found in the documentation"** option, enter **1234** in the textbox and then press the **Next** button. The wizard will then configure your computer and the dongle to properly communicate with your Scribbler robot and report the following window:



Take a note of the "**Outgoing COM port:**" Above it is showing "**COM10**". You will need this information when you are ready to control your robot. Write it down on a piece of paper. Select **Finish** above and you will then get the window below showing that you have configured a Bluetooth service to **IPRE125802** (it will show your robot's number).



Press **OK** and the device window will disappear.

Step 3. Give your robot a name, and then use the `gamepad()` operation to control the movements of your robot. Do Exercises 7, 8 & 9 from Chapter 1 (The World of Robots) from your text. Remember that the markers supplied to you are permanent markers. Always ensure that when using permanent markers, you are using them on a sheet of paper (the lab will have ample supplies).

Each time you insert your Bluetooth dongle into a computer, you will go through the above configuration steps to obtain the COM port number that you will use to establish a connection with the robot. Make sure you save this handout in your carrying case for future use.